NORTHEAST MARKETING ISSUE
Pages 9-16

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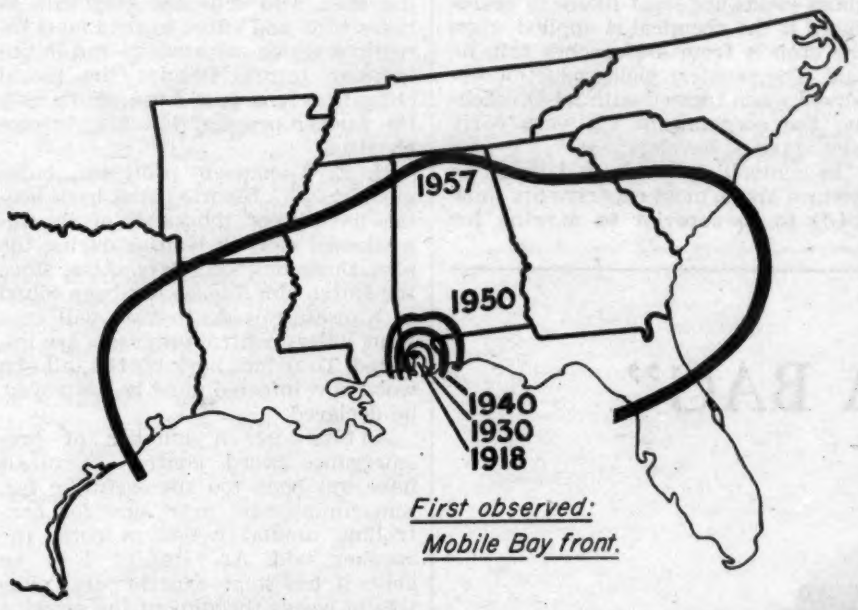

FIRE ANT SPREAD—The spread of the South American fire ant is shown on the above chart, prepared by the Agricultural Research Service, U.S. Department of Agriculture. The pest has advanced since 1918 from a small area of Alabama to a major portion of the South.

The Facts Behind the Fire Ant Eradication Program

EDITOR'S NOTE—The government-sponsored program for eradication of the fire ant has come under attack in recent weeks on the grounds that it is a capricious undertaking which adds up to "rank folly." One such attack on the program, and the subsequent comments by U.S. Department of Agriculture officials, appeared on page 1 of the Jan. 13 issue of Croplife. Below is a sum-up of the program—a story which, in the opinion of Croplife editors, should receive the widest possible distribution to all who are—even in the remotest way—concerned with the fire ant program and similar undertakings by the federal and state governments.

Invasion armies of the South American fire ant have captured about 27 million acres of land in the southeastern U.S. From a small beachhead around Mobile, Ala., they have advanced into nine states, ranging from South Carolina to Texas. And they continue to move northward and westward.

A fire ant's weapons, which he uses one-two-three style, are a bite, a sting and a venom. He makes his attack with both ends of his quarter-inch-long body. Slitting the skin with his bite, he jacknifes his abdomen forward and plunges his stinger into the open wound. He may sink his stinger into several spots, each time injecting a fiery venom.

With these weapons the ants have driven farmers from their fields and children from the school yard and the back yard. They have killed newborn calves and pigs, chased brooding hens from their nests and eaten their chicks. They prey on the eggs and young of quail and other ground-nesting birds.

In humans the sting usually causes a sharp momentary pain and a boil-like infection that lasts from 3 to 10 days. Anyone allergic to the venom may feel sharp chest pains and nausea, gasp for breath, turn blue in the face and lapse into coma. Ordinarily their sting is not fatal, though two deaths from fire ant bites (one a child, the other a woman) have been reported.

Fire ants damage practically all edible plants by sucking the juice from their roots, stems, seeds, and tender shoots. Their mounds, which stand from a foot to a yard high, impair mechanical farm equipment. In Alabama, the most heavily infested of the states, ants have cost farmers and homeowners approximately $25 million. The state's commissioner of agriculture, A. W. Todd, predicts that damage will mount to $100 million a

(Continued on page 4)

Need for Farm Public Relations Program Stressed

LITTLE ROCK—The needs for a strong public relations program for a changing agriculture were pictured at the 55th annual convention of the Association of Southern Agricultural Workers here Feb. 3-5.

More than 1,000 farm workers from 31 states attended. They represented both government agencies and private agriculture and industry.

In addition to general sessions, meetings were devoted to agricultural economics and rural sociology, agricultural editors, engineering, agronomy, animal husbandry, dairying, forestry, home economics, horticulture, marketing, phytopathology, plant physiology, poultry and 4-H work.

The first general session was opened by Lippert S. Ellis, dean of the College of Agriculture, University of Arkansas, Fayetteville, association president. Speaking on "A Changing Agriculture," the dean said that

(Continued on page 8)

Grace Chemical To Expand Urea Output Facilities

MEMPHIS—Construction work will begin shortly to expand urea production facilities at the Grace Chemical Co. plant here.

William J. Haude, president, announced that production will be increased by adding to present facilities. He declined to reveal the cost of the project.

Mr. Haude said the new facilities, expected to be ready for use in about 15 months, will require some increase in operating personnel. The plant now employs 320 workers and produces 150 tons of urea and 300 tons of anhydrous ammonia daily.

WISCONSIN DEALERS TOLD:

Well-Balanced Fertilization Is Part of the Mainspring of Today's Competitive Farming

MADISON, WIS.—Soil improvement and extensive, well-balanced fertilization are mainsprings of today's competitive agriculture, soil researchers emphasized at the University of Wisconsin Farm and Home Week, Feb. 3-7. They spoke to lime and fertilizer dealers in a special program Feb. 3.

The main thing for a farmer to keep in mind is that he has to fertilize to fit the soil, whatever it may be, Marvin T. Beatty, Wisconsin soil scientist, said.

Deep, silty soils can hold plenty of moisture and nutrients for high fertilization and high yields. Farmers with sandy, shallow, poorly drained, acid, infertile subsoils may increase profits through land smoothing, deep drainage, stone removal and other practices, Mr. Beatty said.

He pointed out that the National Plant Food Institute and experiment station specialists have prepared a production potential wall chart which outlines soil traits and limitations of ten regions covering Wisconsin.

But though the chart will be of considerable help to dealers it is only an important beginning step, Mr.

(Continued on page 17)

Farmer Fertilizer Knowledge Limited, Midwest Group Told

By LAWRENCE A. LONG
Editor of Croplife

CHICAGO—More than 700 persons attended the annual joint meeting of agronomists with the fertilizer industry at the Edgewater Beach Hotel here Feb. 13-14. The meeting, sponsored by the National Plant Food Institute, was held in former years under the auspices of the old Middle West Soil Improvement Committee, now the Midwest regional office of NPFI.

Although discussions were concerned largely with the Corn Belt states, the convention attracted agronomists and industry representatives from a wide portion of the country.

The attitude of farmers in the north central states toward the use of fertilizer, as revealed by a study conducted for NPFI by National Analysts, Inc., indicated that growers in that area tend to regard an investment in commercial fertilizer as a financial risk with uncertain benefits. The Corn Belt farmer seems to relate fertilizer use to greater production rather than to lower per unit costs, despite the fact that he is worried about the cost of production.

The report, presented by M. S. Williams of the NPFI staff, Washington, D.C., and Zenas H. Beers, midwest

(Continued on page 21)

Pesticide "Trial" Gets Under Way In New York Court

NEW YORK—An unprecedented "trial" in which the use of insecticides in large-scale pest control programs will be assailed by a group of Long Island citizens, began in Eastern District Federal Court, Brooklyn, last week. The hearings, expected to stretch out to as long as two weeks, are regarded as significant since the decision handed down by the court is likely to have important implications in future actions.

Opposition to use of DDT for mass spray projects came to a head during the recent gypsy moth campaign when a group of residents in the area protested against the program which, they said, would do great damage to human beings and to fish and wildlife.

A temporary injunction was sought earlier in an effort to stop the program, but the motion was denied. However, the plaintiffs now seek a permanent injunction which would outlaw future projects of similar nature.

Leading the 14 plaintiffs from Long Island is Robert C. Murphy, former curator of birds for the New York Museum of Natural History, who has expressed fear that insect control campaigns of the type conducted by the U.S. Department of Agriculture will result in widespread killing of birds, fish, and game.

Application Suggestions, User Education Topics at Kansas Pesticide Meeting

MANHATTAN, KANSAS — Nearly 200 agriculture specialists, farmers, weed supervisors, and dealers attended the second Kansas Insect and Weed Control Conference in Manhattan, Feb. 4-5. Sponsored by the departments of entomology and agronomy at Kansas State College, with the aid of other departments and extension stations, the fast moving sessions covered dozens of problems from cutworms to crabgrass.

Department heads presiding at the six sessions were: R. V. Olson, agronomy; W. F. Pickett, horticulture; H. Knutson, entomology; G. H. Larson, agricultural engineering; S. M. Pady, botany and plant pathology; and W. E. Ringler, assistant director of extension.

Soil fumigation tests were conducted in determining the effects of nematodes in Kansas. Spiral, root lesion, dagger and stunt nematodes were responsible for the death of much of the blue grass, rye grass, and zoyzia in eastern Kansas the past year, according to O. H. Elmer, plant pathologist of the experiment station. Soil fumigation to control root knot nematode near Wichita increased the yield of peppers ten fold, squash yields doubled, and broccoli bore continuously throughout the summer instead of dying early as usual.

Webworms are extremely difficult to control except when small or just getting started in an alfalfa field. Properly timed cuttings and DDT or toxaphene (21 lb. an acre) can be effective, except on forage alfalfa where residues present a problem. C. C. Burkhardt, assistant entomologist at the experiment station, named three chemicals that have been approved for the spotted alfalfa aphid: Systox, applied to foliage and translocated; Phosdrin, 2-4 oz. an acre; and Thimet, seed or soil treatment on alfalfa at time of planting.

W. M. Phillips, research agronomist, USDA, Hays experiment station, reported that no pre-emergence weed control treatment for sorghum had been consistently satisfactory. Sorghum yields are least likely to be reduced if the chemical is applied when the crop is from 4-10 inches tall, he said. The greatest yield reduction occurred when treated with 2,4-D, catching the sorghum in the very early boot stage of development.

In controlling weeds and brush in pasture areas, most experiments show 2,4-D to be superior to mowing for broad-leafed plant control. Where many weed species are present, the latter part of May appears best for treating. Foliage applications on brush require 1-2 lb. 2,4-D an acre in the spring months when leaves reach maturity. Ten to 20 gal. carrier an acre are needed with ground equipment and 3-4 gal. carrier an acre if an airplane is used.

The importance of correct recommendations by pesticide dealers was cited by Phil Marvin, Homar Agricultural Chemicals Co., Manhattan. An Illinois survey demonstrated that farmers who buy chemicals from well-informed dealers receive the best results, he said. The farmer relies greatly on the recommendations given by the man who sells the chemical. It takes time and effort to read label directions which are strange and in unfamiliar terms. Besides the moral obligation it is good business to help the farmer prosper, Mr. Marvin emphasized.

H. E. Thompson, professor, entomology, KSC, reported that bark beetles have killed thousands of drouth-weakened elms in Kansas during the past three or four years. Also, since the Dutch elm disease has been found in Kansas, this death rate will continue unless control programs are initiated. To reduce bark beetles, all elm wood now infested must be destroyed, he declared.

Although a number of pre-emergence weed control chemicals have not been too successful so far, Simazin appears promising for controlling annual weeds in corn, the speaker said. At rates of 4 lb. an acre, it has kept experimental plots free of weeds throughout the growing season. Leaching does not appear to be a problem, since corn is highly tolerent and seedlings are not injured by the chemical; but it should be remembered, however, that Simazin is still in the experimental stage, L. E. Anderson, professor, agronomy, said.

Mr. Anderson recommended intensive cultivation in combination with a crop such as winter wheat for controlling heavy infestations of Johnson grass in cultivated areas. Close grazing or frequent mowing followed by late fall plowing will also reduce the stand, he said. Row crops are unable to compete with Johnson grass.

Non-cultivated areas may require chemicals. Dalapon, 10-25 lb. an acre or Ferbon, ½-1 lb. a square rod, give excellent control when applied to actively growing plants in the 12-18 inch stage. A light re-treatment is usually necessary, also a higher volume of carrier gives a better kill.

Spraying equipment problems were discussed with nozzle stoppage cited as being the number one headache in the operation of the low volume boom type sprayer. It was also felt that to do a good job an accurate speedometer giving the ground speed of the tractor was vital. The sprayer may be functioning perfectly, but if the rate of ground travel is not carefully controlled, the rate varies accordingly.

One of the most controversial topics among spray operators is the effectiveness of the broad-jet, wide coverage-type nozzle as compared to the boom type. The discussions indicated that the broad jet is cheaper, has little nozzle stoppage, is more convenient to use, more easily cleaned and requires less storage space. However, uniformity of distribution was described as poor, droplet size has a wide range and wind causes more trouble with distribution.

Other topics discussed included the Kansas noxious weed law, discussed by J. R. Ubel, state weed superintendent; chemical weed control in vegetables, by J. K. Greig, Jr., professor of horticulture; control of livestock pests, by C. C. Roan, professor of entomology; control of lawn pests, R. W. Campbell, professor of horticulture; insect control responsibilities on public and private properties, H. Knutson; and use of soil sterilants in controlling weeds, by O. G. Russ, agronomist at the experiment station fields.

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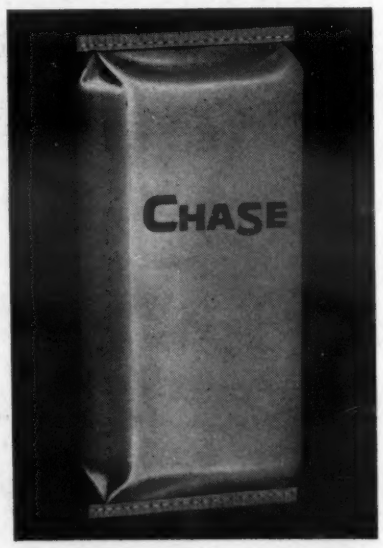

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Entomology Entering Most Brilliant and Challenging Era, NAC Executive Says

SEA ISLAND, GA.—"The science of entomology is entering its most brilliant and challenging era," L. S. Hitchner, executive secretary of the National Agricultural Chemicals Assn. declared here Feb. 6.

"Entomologists are pushing forward man's ability to control dangerous and destructive insects at a faster pace than ever before," Mr. Hitchner said. "Now, as we enter the space age, we can foresee the time when entomologists will be called upon to study insect life on other planets and devise ways to protect earth from dangerous insect imports."

Speaking at a meeting of the Georgia Entomological Society, Mr. Hitchner noted these new trends in insect research and control:

1. The use of atomic tools—notably radio isotopes—to unlock secrets of insect life and learn how present control methods can be improved;

2. An increase in programs not merely to control pests, but to actually eradicate them in some cases, and development of long-range preventive programs to bar known insects from developing into major economic or health hazards;

3. The opening of new fields in which scientific pest control can measurably aid the national economy and bring great benefits to the health and comfort of men, women and children.

Mr. Hitchner told the Georgia entomologists, "I called several of my friends in different parts of the country who are leaders in the field of entomology and asked them for their comments and suggestions. It was the consensus of the people with whom I talked that the science of entomology is entering its most brilliant and challenging era. It was compared with medicine of 50 years ago which was at that time just starting to make the important discoveries that have brought longer life and better health to mankind. Similar developments can be expected in the field of entomology with great benefit to the health, comfort and longevity of men, women and children."

"New fields are opening up in which the knowledge of entomologists can contribute even more to the welfare of the general public," Mr. Hitchner said. One of these new fields is the control of forest pests which now kill nine times as many trees as forest fires. "Control of forest pests would be a boon to forest conservation and to our expanding economy," Mr. Hitchner said.

Another new field, he said, is the control of insects, as well as weeds and brush, along our highway roadsides. "The new highway program is adding millions of acres to our highway roadsides. Chemical mowing and chemical maintenance are the only economical and effective ways to preserve the beauty and safety of these roadside areas."

"Scientific research by entomologists and other scientists is the basis of this progress in whose benefits we all share," Mr. Hitchner declared. He noted that a survey just being completed by the National Agricultural Chemicals Assn. indicates that chemical manufacturers alone are now spending about $20,000,000 a year on research to improve man's control of unwanted, destructive pests. "That is 8% of the manufacturers' gross sales—one of the highest commitments for research of any industry in the country."

Mr. Hitchner warned that a big task ahead for entomologists and others concerned about improving pest control is the task of keeping the general public informed. "We have to keep everyone completely informed of what we are trying to do, how we are trying to do it, and the benefits the public can expect from improved pest control," he said.

Mr. Hitchner concluded, "We all have a stake in progress and in developing knowledge about insects and how best to control them. Our knowledge must be improved year after year. Man desires greater freedom from insect pests—from mosquitoes, flies, and household pests as well as from pests which destroy food and fiber crops. More than that, man must have greater freedom from insects in order to maintain an adequate supply of food and fiber for our growing population. As population grows, pest control becomes increasingly important."

SOILS CHEMIST RETIRES

WOOSTER, OHIO—C. A. Schollenberger, soils chemist at the Ohio Agricultural Experiment Station here, has retired after almost a half century of service.

Spencer Reports Increases In Both Sales and Profits

KANSAS CITY, MO.—Substantially higher sales and a modest increase in net profits were reported by Spencer Chemical Co. in the six months ended Dec. 31 as compared with the same period a year earlier. Contributing to the 13% increase in sales for the latest six month period was a price increase in nitrogen products announced last summer which went into effect Oct. 1.

Moisture conditions in the Middle West, where the company does a substantial volume of agricultural nitrogen business, are now back to normal after several years of drouth, creating a favorable sales situation.

Net sales in the six months ended Dec. 31 were $21,194,629, compared with $18,699,928 a year earlier. Net profit for the same period was $1,578,081, equal to $1.16 a common share, after preferred dividends, as compared with $1,527,951, or $1.10 a common share, the company reported.

In the second quarter of the fiscal year ended Dec. 31, sales amounted to $10,474,886, up from $9,629,256 a year earlier. Net profits for this quarter, after increased wages, selling, administrative and research expenses, were $742,749, equal to 54¢ a common share, against $794,432, or 58¢ a share, a year before.

Kansas Firm Adds Fertilizer Department

SCOTT CITY, KANSAS—The Durrant Seed & Supply Co. here has announced the addition of a fertilizer department. The firm advertises that it is now equipped to fertilize crops with Uran liquid fertilizer, and has a truck with a 50-foot boom, storage tank with 25,000 gallon capacity and can fertilize 100 acres a day.

Cost estimates and bookings can be made with Marvin Durrant, Scott City, for Ft. Scott County, and with Floyd B. Bjurstrom, Leoti, for Wichita County.

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DAMAGING PEST—Here's a photographic record of the damage caused by the fire ant. Shown at the left is a heavily infested pasture in Louisiana. The center picture shows the boil-like postules that formed on a man's arm after he was bitten by the fire ant. At the right is a glimpse of the pest attacking vegetable matter.

FIRE ANT PROGRAM

(Continued from page 1)

year, if the ants continue to spread at their present rate.

Ant armies have been able to keep their invasion rolling chiefly because of their queens. Queens can fly and they produce young at an enormous rate.

Each colony has about 250 queens. In the spring the queens leave their home colony on a mating flight. A favorable wind, or a convenient truck, train or car can carry them miles into new territory. Queens from one colony can start 250 new mounds and produce roughly six million stinging defenders. From these colonies more than half a million new queens will emerge the following year.

Some individual landowners have cleared their property of fire ants by applying insecticides. "But," says C. C. Fancher, the U.S. Department of Agriculture's supervisor of the infested region, "unless the pest is driven from neighboring areas, these people will have to treat their land at least every 3 years to prevent reinfestation. And that becomes costly."

It was this problem of reinfestation, plus the rapid spread of the fire ant, that led the infested states to appeal to the federal government for help. Last year Congress, in the form of an appropriation, commissioned USDA with the responsibility of participation in a joint federal-state program.

The program is voluntary and cooperative, Mr. Fancher said. Before a cooperative program can begin in an infested area, the participating state and individuals must map out the area of infestation, obtain the necessary approvals and share the cost of the program.

Some critics concerned with the effect that the insecticides will have on wildlife have questioned the advisability of the program. One authority on the toxicity of agricultural chemicals, Dr. Mitchell R. Zavon, who is assistant professor of industrial medicine at Kettering Laboratory, University of Cincinnati, thinks that these critics fail to distinguish between "toxic chemical" and "hazardous application." "Many commonplace things, like aspirin and automobile exhaust fumes, are toxic," he explained, "but they do not become a hazard until they are received in unusual amounts."

The insecticides used in the program are dieldrin and heptachlor. Both have been on the market since the early 1950's. Both are widely used to control a variety of insects that attack cotton, fruits, vegetables and rangeland grasses. Dieldrin has been packaged and sold for home garden applications since 1954.

The USDA requested—and obtained—advisors from Fish and Wildlife Service to work with USDA application crews in the field. And in cooperation with both federal and state wildlife people, it is setting up groups to further study the effect of insecticides on wildlife.

The basis of the USDA's strategy is to get the insecticide out of the normal feeding places of wildlife as quickly as possible. To do this, the insecticides will be applied in granular form rather than as a spray.

To prevent granules from being broken down by rain water, thus producing something akin to a spray, applications will be made only during dry periods, preferably before new growth starts.

Wildlife observations, made during a program to control the white-fringe beetle, give support to this strategy. Observers from various state agricultural colleges, from state wildlife agencies and the USDA conducted a series of field tests to check the effects of an insecticide on wildlife. The tests ran from 1952 to 1955 and covered 1,733 acres of noncultivated land. Granulated dieldrin was applied in each of the tests at a higher dosage than that prescribed for the fire ant program.

The pretreatment, post-treatment reports produced this consensus: little if any effect on wildlife, provided the insecticide was applied when the vegetation was dry.

Farm animals will be kept out of the reach of insecticides by making applications on an installment basis. On a farm with a herd of cows, land will be treated where cattle are not presently grazing. After a well-padded waiting period—2 weeks or so—the cows will be moved to the treated land, and the remaining acreage will be treated.

Installment treating also will be used around ponds, lakes, and rivers. In this manner lethal doses will be prevented from being carried to fish.

The insecticide will be applied by hand, by motorized ground equipment and by aircraft. Choice of equipment is determined by the area to be treated. In urban areas, ground equipment will be used. Large forest and noncultivated areas will be treated by air.

Plans call for completion of a unit within three years. Once in the soil the insecticides will keep the land ant-free for that duration. If all areas are not treated within that time, a second treatment will be needed to keep the fire ants from regaining their lost ground.

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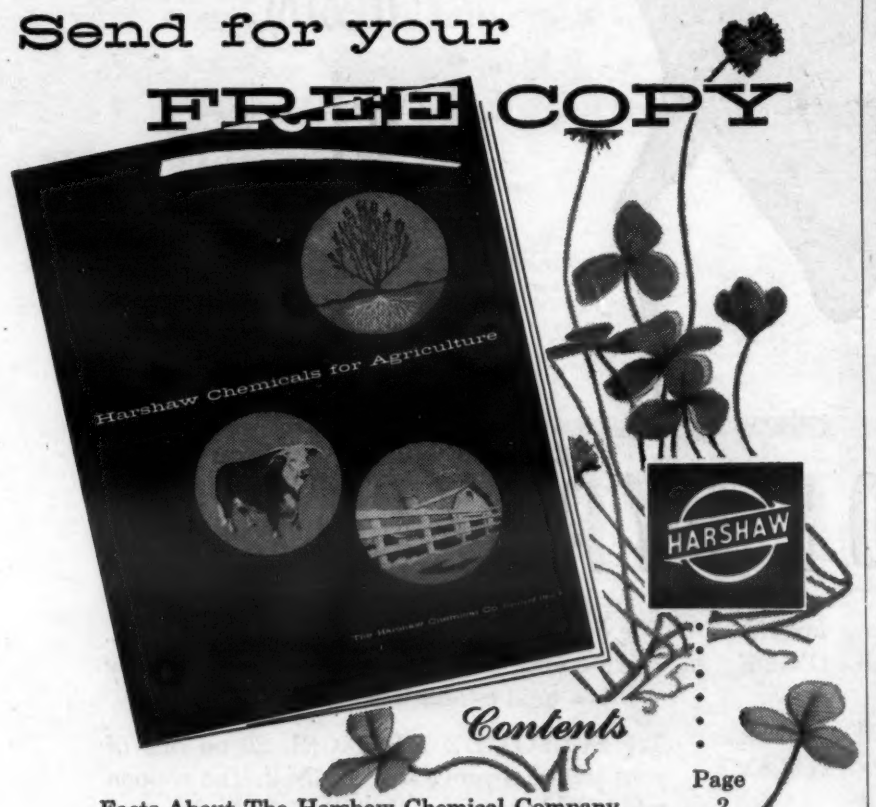

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ICC Grants Railroad Rate Increase Effective Feb. 15

WASHINGTON — The Interstate Commerce Commission late Feb. 12 announced that the nation's railroads would be permitted effective Feb. 15 to increase freight rates as requested in Ex Parte 212.

For the fertilizer industry, this means an increase of 20¢ per ton on fertilizer and fertilizer materials including potash, and an increase of 10¢ per ton on phosphate rock. None of the increases apply, however, to traffic moving wholly within the southern territory. Also, certain line hauls of phosphate rock, such as from Florida to Chicago, were exempted by agreement among the affected railroads.

At the same time, the commission instituted an investigation into the lawfulness of the increases. No dates for hearings have as yet been set, but it is expected that rules will be issued within the next few days.

If any of the proposed increases should happen to be suspended later, as a result of the investigations, the railroads will be required to make a rebate to shippers on request retroactive to the Feb. 15 effective date.

The general increase amounts to 2% on class rates, but the increases in commodity rates are on a selected basis. The proposed 6¢ increase in line haul rates for waterborne traffic was suspended. Also suspended or made subject to maximum were certain requested increases relating to loading charges, free time at port, stoppage in transit, switching charges, diversion and reconsignment. All of these, however, will be investigated in the course of the hearings.

Approximately 1,000 protests and 119 verified statements were filed with the commission in opposition to the proposed increase. Of these, 35 were filed by or in behalf of the fertilizer industry.

Kansas Anhydrous Firm Gets New Operator

GAYLORD, KANSAS—W. V. Cummins of Aurora, Neb., is the new operator of the Motter-Windscheffel anhydrous ammonia business here. Arno Windscheffel and Carl Motter have sold the business to the Spencer Chemical Co. Mr. Cummins has leased it.

Mr. Cummins has been in the fertilizer and farm supply business since 1950 and is currently operating a farm supply enterprise at Aurora, Neb. Mr. Cummins said he will expand the business here to include the sale of agricultural chemicals, all kinds of fertilizers and seeds. Name of the new enterprise will be Bill's Farm Supply.

Buys Property

PORTLAND, ORE. — Pacific Cooperatives has purchased the real property of the bankrupt Screw Machine Products Co. with a bid of $136,000 at a trustees' sale. Included were a warehouse and a factory building on a 7.4 acre site. Pacific said it had plans for developing the property, probably this year, although no definite announcement can be made at this time. Headquarters of the firm is at Walla Walla, Washington. It has at present a large agricultural chemicals plant and farm supply warehouse here.

SOIL STEWARDSHIP DAYS

ST. PAUL—The annual Minnesota soil conservation event, "Soil Stewardship Days," will be Sept. 12-13, on the Martin Lehne farm, south of Sanborn in southwestern Minnesota, according to Frank Crippen, Sanborn, chairman of the event. The event is popularly known as "Plowville."

'57 Corn Borer Loss Set at $158 Million

USDA Says Damage Is Almost 85% Higher Than in 1956

Sales Argument for the Pesticide Industry—See Page 9

WASHINGTON—The U.S. Department of Agriculture has estimated the European corn borer in 1957 destroyed almost 181,000,000 bu. of corn worth $158,841,000.

This loss amounts to about 6%—or one corn row in every 17—of the total national crop of more than three billion bushels. It is almost 85% higher than the 98,000,000-bushel loss charged to the insect in 1956.

The insect damage last year was the third highest in the past nine years.

Iowa, Nebraska, Missouri, South Dakota and Illinois sustained heaviest losses, the department said. The monetary losses by states included: Iowa $86,840,000; Nebraska $17,499,000; Missouri $16,562,000; South Dakota $11,773,000; Illinois $11,085,000; Minnesota $7,288,000 and Indiana $1,498,000.

Eastern South Dakota Faces Hopper Threat

BROOKINGS, S.D.—Grasshoppers will probably give eastern South Dakota farmers some trouble during 1958 but infestations are generally light in western areas.

Commenting on the results of a special grasshopper survey for South Dakota, John Lofgren, entomologist with the Agricultural Extension Service at South Dakota State College, reports that weather last fall provided grasshoppers with favorable egg laying conditions in all parts of South Dakota.

Farmers east of the Missouri can expect hoppers to be numerous enough to do some damage. The largest numbers will be found in alfalfa crops and in field margins. Grasshopper damage could get serious in the extreme southeastern tip of the state, in the northeast area and in a small strip in Campbell and McPherson counties.

Light to threatening, describes the situation for about 30,000 acres of range country in Fall River, Custer, Pennington and Lawrence counties. Mr. Lofgren said the build-up here is much smaller than the problem which was expected in 1957. The natural mortality rate and spraying activities reduced the threat considerably last year, but there are still signs of a threatening infestation in 1958. Light scattered hopper infestations are also expected in Harding, Perkins, Corson and Dewey counties.

Even though the south central region appears to be relatively free of hoppers, Mr. Lofgren said favorable conditions could reduce grasshopper problems in scattered spots in this area.

NEW FERRO PRESIDENT

CLEVELAND, OHIO—Harry T. Marks, executive vice president, was elected president of Ferro Corp. at a recent meeting of the firm's board of directors, it was announced by Robert A. Weaver, board chairman and chief executive officer of the Cleveland concern. Mr. Marks, a 25-year veteran of Ferro, will continue to carry out his present duties while assuming the position made vacant by the sudden death of C. D. Clawson.

Mexican Fruit Fly Situation in California Shows Big Improvement

SAN FRANCISCO—The latest report on the Mexican fruit fly situation in California shows a marked improvement since the previous July 24 report, according to the U.S. Department of Agriculture. Although 13 more flies were trapped in the Tijuana area in the last week of July, the number fell off sharply in August, with only five captures. And none has been taken anywhere in the project area since Aug. 20, none on the California side of the border since July 23.

The feeling is that the flare-up earlier last summer was due to untreated fruit which somehow found its way to the Tijuana area without inspection and treatment. Since the capturing of the flies has been confined to periods when mango shipments were moving into the project area from Mainland Mexico, plans have been to discontinue the spray program during the winter season, resuming again in mid-March if no further flies are trapped in the meantime.

A bait spray program in the Tijuana Valley and the adjoining buffer zone in California has evidently successfully contained the little insect. The California Bureau of Entomology continues to maintain the first defensive zone along the border, with 1,322 traps concentrated principally in the San Ysidro area. During the critical period of July and August last year, traps were serviced on a three to five-day schedule, which was later lengthened to once a week.

In the second zone south of the San Diego River and south of Highway 80 east to Jacumba, the U.S. Department of Agriculture has been running 1,583 traps on a weekly checking schedule. And with the advent of cooler weather, with temperatures no longer lethal to fruit flies, trapping was resumed in Imperial Valley and the Yuma area by federal men.

San Diego County is also operating 235 traps scattered in the fruit-growing areas, and the state has been operating an additional 55 traps in the northern part of the county.

During last summer, an extensive cooperative program was carried on between the state and counties for the detection of several species of fruit flies. Over 3,300 traps have been operated in the eight southern counties, over 1,700 of them for Mexican fruit fly detection. And a similar program has been in operation in other parts of the state.

The Plant Pest Control Division of the USDA, in cooperation with the Mexican government, has maintained traps in several areas of Mexico, and has carried on inspection and other detection work there.

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- EQUIPMENT
- CONSTRUCTION
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- PLANT SURVEY

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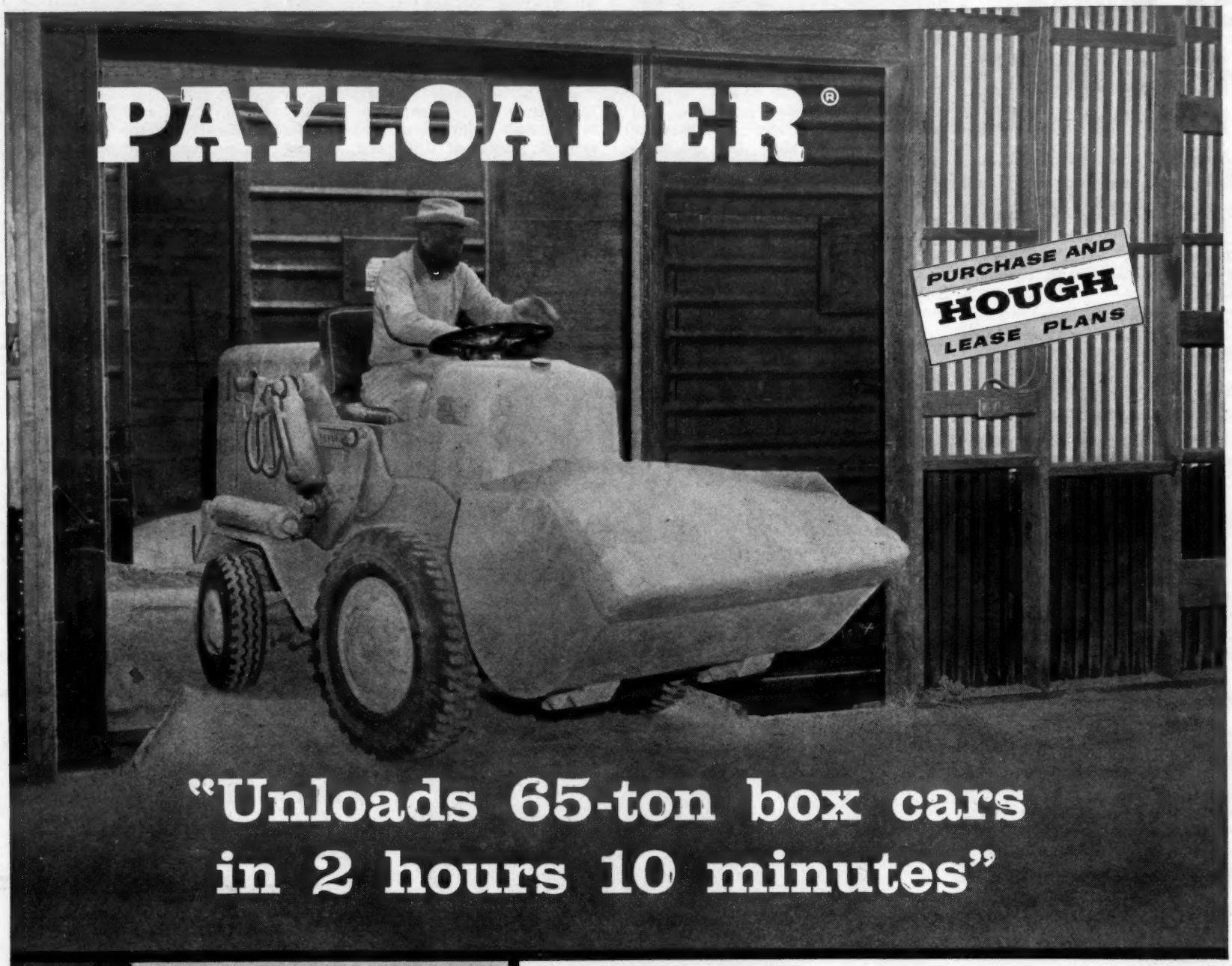

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To what does Mr. Clement attribute this fortunate condition? He says that the modern HA's roll-back bucket loads with less effort, delivers with less spillage and operates with lower maintenance. "With such operating efficiency, average unloading time for a 65-ton rail car has been reduced to 2 hours, 10 minutes on a 35-ft. haul."

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Weed Control and Fertilization Suggested As Alternative for Summerfallow Practice

FARGO, N.D. — Benefits of summerfallow include weed control, moisture conservation and increased nitrogen availability, according to R. A. Young, agronomist at the North Dakota Agricultural Experiment Station here. In a recent address given before the North Dakota Crop Improvement Assn. at Jamestown, he declared that these in turn result in increased yields.

However, although fallow is of much value in reducing weediness in North Dakota, it does not completely control all weeds. At Mandan, he said, the practice of fallowing saves about 20% of the moisture that falls during the entire fallow period. During that portion of the fallow period from seeding time to seeding time only 15% or about 2.2 inches of moisture is stored.

North Dakota soils, except those low in organic matter, release enough available nitrogen during the fallow year and the following growing season to meet the needs of the first crop after fallow. At seven experimental stations in North Dakota, wheat yields after fallow have averaged from 27 to 54% greater than after small grains and from 11 to 32% greater than after corn.

Disadvantages of summerfallow include increased wind and water erosion, more rapid decline of soil organic matter content and loss of a crop. These disadvantages plus the fact that fallow gives only moderate increases in yields point to the merits of decreasing its acreage if possible.

Alternatives for fallow include the use of row crops, late-seeded crops, selective herbicides and competitive perennials for weed control, and the use of nitrogen fertilizer in place of the available nitrogen released during the fallow period. More effective collection and utilization of water can be accomplished in many cases by practices such as contouring; spring plowing instead of fall plowing, elimination of excess tillage, wise use of crop residues, and maintaining high fertility.

In connection with the last item mentioned, fertilized wheat plots in 29 trials conducted in North Dakota during the period 1952 to 1957 yielded 7.7 bu. an acre more than non-fertilized plots yet contained an average of only 0.6 inch less soil moisture at harvest time.

Performance of crops after fallow and after non-fallow adequately fertilized with nitrogen and properly managed has not been compared in enough trials over sufficient periods of time to permit drawing secure conclusions concerning the practicability of these alternatives for summerfallow. At Fargo from 1954 to 1956, wheat fertilized with 40 to 60 lb. nitrogen after corn averaged 42.9 bu. and wheat after sweet clover fallow in a similar rotation averaged 42.5 bu. an acre. At Mandan, during 1955 and 1956, nitrogen-fertilized wheat on non-fallow land yielded about the same as on fallow.

On the basis of these results and other observations it is concluded that the use of moderate to heavy applications of nitrogen fertilizer coupled with modern techniques of weed control will permit almost complete elimination of fallow in the cropping systems of Eastern North Dakota and on favored moisture sites in the rest of the state. The importance of stored moisture becomes greater in the drier portions of the state. Fallow in these areas probably cannot be eliminated. However, in seasons where soil is moist to a depth of some 2 feet at seeding time, and where weeds are under control, there is little justification for fallowing even in the driest section of North Dakota.

The reduction of fallow acreage in all parts of the state and its virtual elimination in the areas favored by better moisture conditions not only should provide increased return now, but will aid materially in long-term soil maintenance.

$2,500 GRANT RECEIVED

DAVIS, CAL.—A $2,500 grant to support a graduate research fellowship in agricultural education has been received by the University of California, Davis, from the National Plant Food Institute. The grant will pay salary and travel expenses of a doctoral candidate studying the effectiveness of demonstration plots as means of bringing to the public the latest developments in plant nutrition.

45 Applicators Get Certificates from Oregon Short Course

CORVALLIS, ORE. — Certificates were awarded to 45 of Oregon's licensed agricultural chemical applicators who attended the seventh annual short course here recently. Conference sponsors were the college and the Oregon Department of Agriculture.

It is more desirable for farmers, home owners and foresters to follow a regular program for controlling rodents rather than "spot" controls which are usually applied when it is too late, declared L. W. Kuhn, OSC biologist with the fish and game department. Mr. Kuhn stressed that proper timing and covering of the complete area are two of the most important things to remember in rodent control.

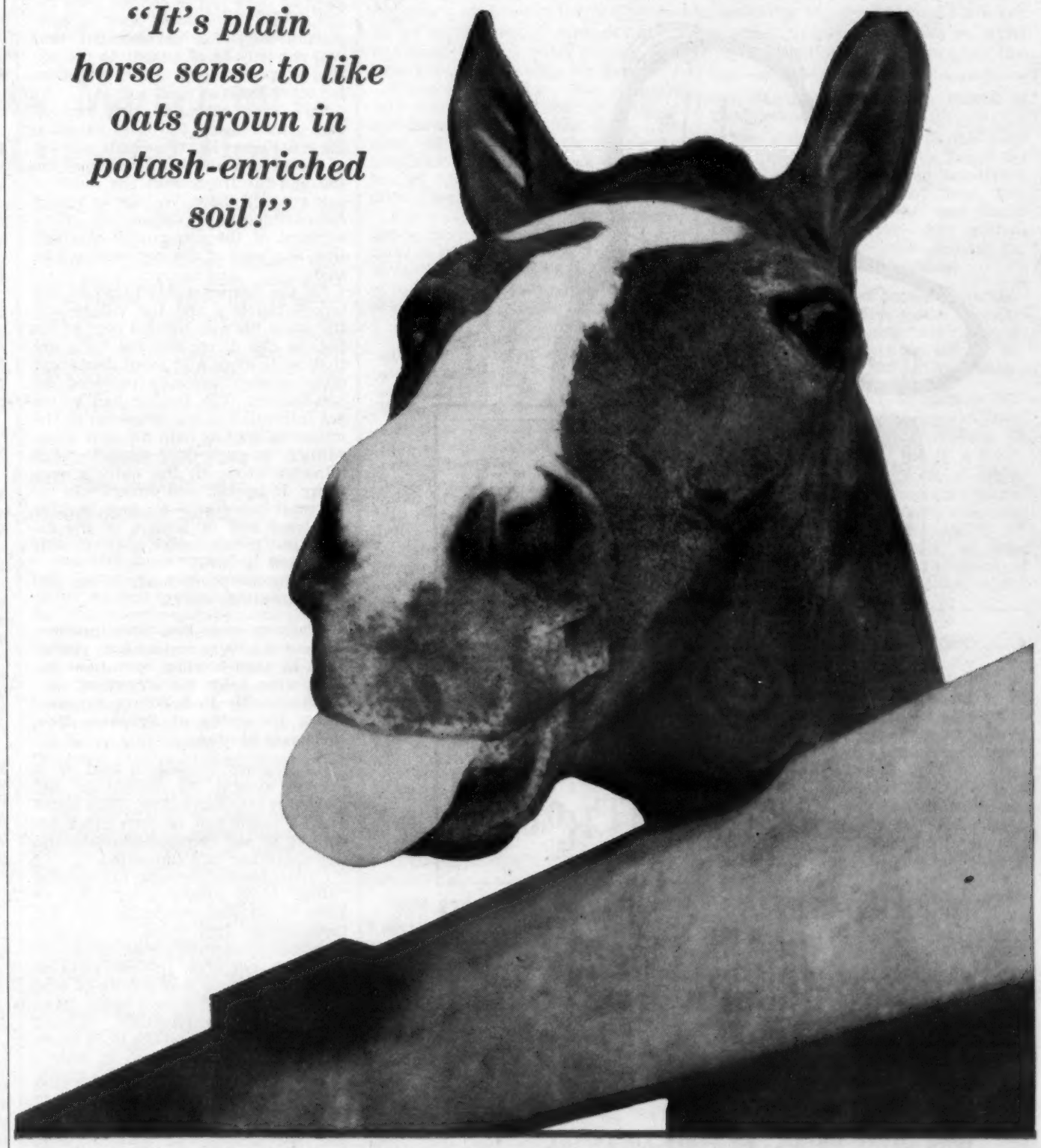
Dr. Ralph R. Sullivan, state board of health, told the group Oregon has a good record in use of agricultural pesticides, as far as preventable incidents are concerned.

"Don't drop your guard when using agricultural pesticides. Applicators who use organic phosphorus compounds consistently in spraying should have periodic blood tests," he warned.

George Moose of Salem, ragweed control supervisor for the state agriculture department, reported that nearly 4,700 acres of ragweed-infested areas were treated during 1957. He added that the plan for 1958 includes educational work with farm and youth groups during the winter. In the spring suspected areas of infestation will be surveyed, and actual control work will probably start in late June or early July.

At the meeting of Ground Sprayers, Inc., Ted Glass, Eugene, was appointed president and Ray Collier of Portland, vice president. Gordon Jones, Portland, was elected to the board of directors.

"It's plain horse sense to like oats grown in potash-enriched soil!"



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SOUTHERN WORKERS

(Continued from page 1)

American farmers, caught in an ever-tightening cost-price squeeze, must take their case to the public.

Changing American agriculture has been marked by declining farm population, increased mechanization, trend toward larger farms, increasing importance of the management factor in modern farming, along with the expanding use of agricultural technology, Dean Ellis said.

He added that this picture of agricultural change in the U.S. leads to the inevitable conclusion that there is a need for:

1. A realistic public relations program that will interpret agriculture to the public in general.

2. Agricultural groups to work together to achieve a sound national program for agriculture that will give farmers adequate bargaining power in an economic society dominated by big business and big labor.

3. Recognition on the part of organized groups that the strength of agriculture today lies, not solely in the number of farm votes, but in the extent to which the membership of organized groups is well informed and able to speak intelligently on farm problems.

Dean Ellis stated that a strong public relations program is needed because "the consuming public needs to recognize that the efficiency of the American farmer has increased greatly. The consumer has been the beneficiary of that increased efficiency.

"The consuming public needs to recognize that the prices received by farmers have not been wholly responsible for the prices which have been asked at the retail level.

"The consumer also needs to appreciate the severe problem facing farmers since 1952 in the cost-price squeeze. While the farmer has been faced with generally declining prices and increasing costs, he has received a declining proportion of the dollar paid for food at the retail level. Consumers need to recognize that an hour of non-farm labor will generally buy more food now than it would a few years ago."

Opening the second general session, Dr. Raymond W. Miller, president, Public Relations Research Associates, Inc., Washington, D.C., said American agriculture will undergo even greater changes in the years ahead.

Speaking on "Public Relations for a Changing Agriculture," Dr. Miller said, "We believe that during the last half of the 20th century the South will become more and more industrialized, but if the constructive minority within agriculture will face the issues, bow with the wind, still keeping their feet in contact with the soil, it will bring forth here an agricultural-industrial development that will not only be of benefit to the nation but perhaps will also be a pattern for other lands as well.

"We must recognize that agriculture is no longer a full-time operation for more than a very small percent of the people, and yet the lure of the soil and the freedom of the countryside are still there. We can no longer compartmentalize agriculture as a segment of the community—agriculture is a part of the community," he said.

"If the farmer wants to go on and ignore the city and the village and the small town as being a part of his life, he can do so; but the facts are that he is more and more dependent upon service agencies provided by non-farmers. The farmer had better get interested in the problems in the village as well as with his own. Agriculture, as such, is getting to be a minority group in the nation's economy. It is still, and always will be, the most important—for food, and for the 'seed bed' of leaders of the future. But it had better keep its self-adulation to itself."

Among the points made in the sectional meetings were:

Farmers may lime and fertilize irrigated soils to restore crop yields lost by land leveling operations in preparing fields for irrigation, according to Dr. D. A. Brown, agronomist, University of Arkansas Experiment Station.

Researchers leveled a field in a fashion typical for irrigation and divided it into five blocks. They limed and fertilized half of each block according to soil recommendations and left the other half untreated.

Cotton production from unfertilized "filled" plots ranged from 1,400 to 1,800 lb. of seed cotton an acre for three years. Application of lime and fertilizer increased yields from 500 to 950 lb. per acre. Highest yield on "cut away" areas was 900 lb. of seed cotton in any of the three years. Lime and fertilizer applications boosted production of these blocks by as much as 1,700 lb. of seed cotton an acre.

"A fool-proof system for recharging ground water is not yet perfected to successfully irrigate an average Arkansas farm," reported Kyle Engler, agricultural engineer, University of Arkansas Experiment Station.

He explained that in an ideal situation, surface water would flow from a reservoir to maintain the ground water table in an irrigation well. He said Arkansas researchers are attempting to develop a procedure that would effectively recharge a farmer's ground water supply.

How a farmer can justify the acquisition of a sprayer for application of herbicides was explained by Carl Thomas, assistant professor of agricultural engineering, Louisiana State University.

"Whether a sprayer is homemade or bought commercially depends mostly upon shop facilities available. In general, a tractor-mounted sprayer can be assembled with a bare minimum of shop equipment if the sprayer is designed for pre-emergence, post-emergence or late season spraying.

"The major difficulty would be in the mounting of a tank, which may require some welding. By using a 55 gallon drum as a tank, it is estimated that a sprayer could be fabricated for less than $100, using good materials throughout.

"At this rate, the sprayer could be justified on as little as 15 acres of cotton if hand labor were hired for hoeing the crop. This would mean that the sprayer costs could be absorbed by savings from pre-emergence herbicide usage on the 15 acres in one year. The sprayer also would be available for other jobs."

Agriculture business integration, which now accounts for a small fraction of the present farm economy, is gradually increasing, said Orlin J. Scoville, U.S. Department of Agricultural Research Service, Washington, D.C.

"It is highly probable that agricultural-business integration will continue to expand," Mr. Scoville said, adding "contract deals between farmers and business firms and cooperative ventures will continue to be the predominant forms of vertical integration.

"The expansion of agricultural-business integration is one of the most significant current developments in agriculture," the speaker pointed out. "It may contribute to the more efficient use of agricultural resources, but its ultimate effect on farm incomes and the welfare of farm people remains to be seen."

How irrigation and high rates of nitrogen worked together to produce large cotton yields was related by Dr. R. W. Pearson, USDA soil chemist at Alabama Polytechnic Institute, Auburn. Average yields from a 240 lb. per acre nitrogen rate were 2,245 lb. of seed cotton per acre without irrigation, 4,073 lb. from a low irrigation rate, and 4,999 lb. from the highest irrigation treatment. The latter was a 3,084 lb. increase over the no-nitrogen, no-irrigation treatment.

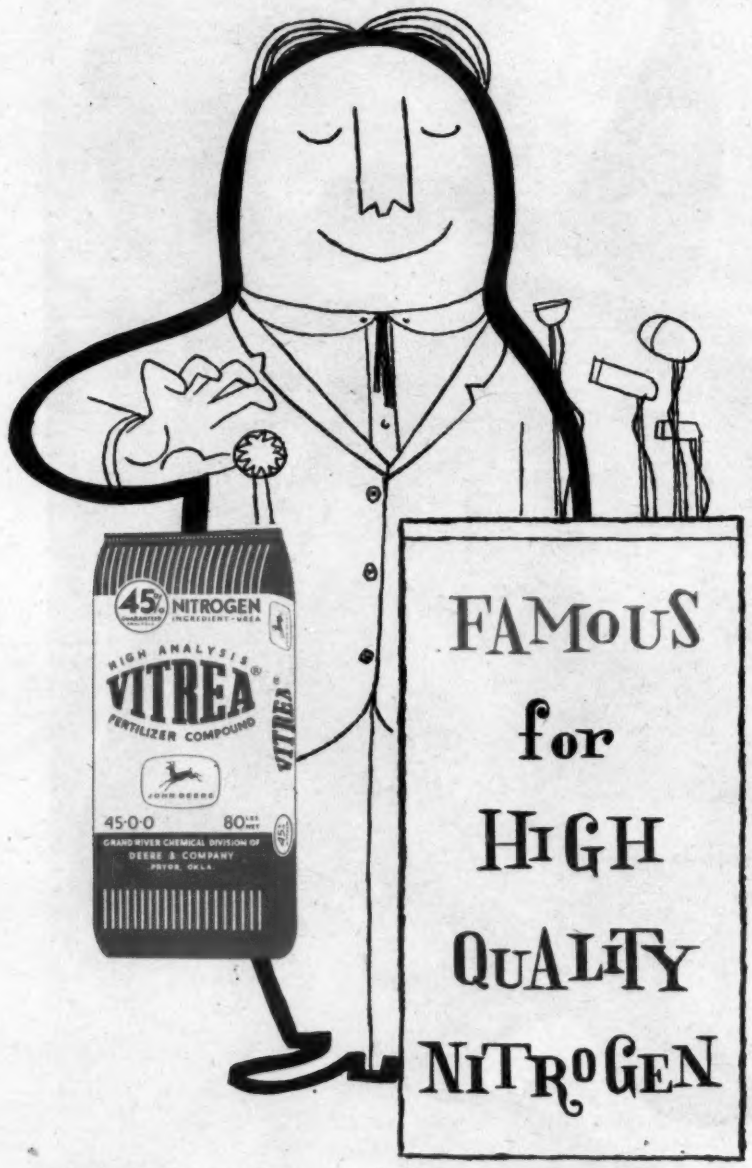
Gibberellins was a topic which came in for considerable discussion at the convention.

Nine different reports were made on this subject. The growth stimulator was discussed at a symposium at a plant physiology section meeting. With J. L. Liverman, Texas Agricultural Experiment Station, presiding, the symposium heard discussions on the control of flowering in chrysanthemums by gibberellic acid and other chemicals, effects of gibberellins upon the growth of sugar cane, the control and fruiting of cotton by gibberellins, and the production of vegetable crops as controlled by gibberellins.

Other reports included a study on the effect of gibberellic acid on the alcohol soluble constituents of oats, effect of gibberellic acid on ion uptake, the effect of gibberellic acid on tomato plants, effect of gibberellic acid on sweet potatoes and the effect of gibberellic acid on the yield of vegetables.

SOUTHERN WORKERS ELECT OFFICERS

LITTLE ROCK—The new president of the Association of Southern Agricultural Workers is L. B. Dietrick, dean of agriculture at Virginia Polytechnic Institute, Blacksburg, Va. He moved up from the organization's vice presidency to succeed Lippert S. Ellis, dean of agriculture, University of Arkansas, during the association's 55th annual convention here Feb. 3-5. D. W. Colvard, dean of agriculture, North Carolina State College, was elected vice president and C. E. Kimmerly, Jr., Agricultural Extension Service, Louisiana State University, was named secretary-treasurer.



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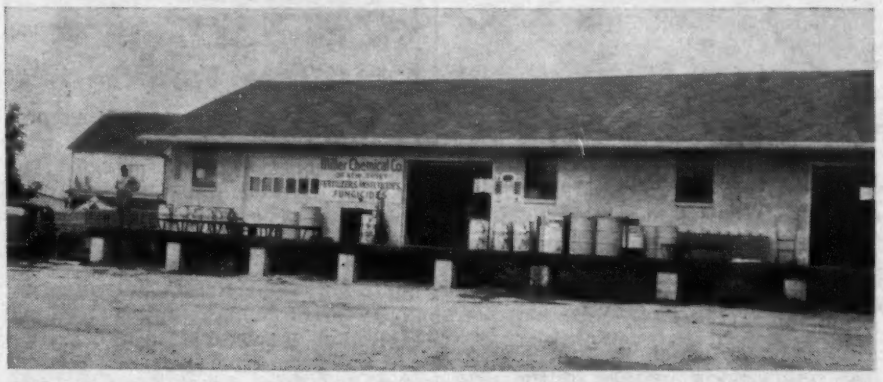


LOADING DOCK—Ben Fowler, assistant manager, Miller Chemical & Fertilizer Corp. branch, Glassboro, Md., stands on the handy loading dock from where fruit growers are served with their spray materials and fertilizers.

Fruit Growers Key Market for Maryland Farm Chemical Firm

By AL P. NELSON
Croplife Special Writer

Large size containers, some up to 50 gal., outsell smaller size packages of spray materials at the Glassboro, Md., branch of the Miller Chemical & Fertilizer Corp.

The reason for this is that fruit raisers, many of whom have up to 100 acres of crop bearing trees, use spray materials in large quantities, according to Walter Malyk, manager, and Ben Fowler, assistant. For instance some fruit crops get from 13 to 14 sprays during the season.

"Most of these fruit raisers have their own spray machines," states Mr. Fowler, "but they come here for their spray materials. While most of the raisers have up to 100 acres of trees we've got several who have as high as 500 acres. Those fellows really do a lot of spraying. For instance, we sell a lot of DDT for peach tree borer control."

This farm chemicals branch store, located right in the heart of the New Jersey fruit raising country, has a big drive-in for farm trucks. There's a loading platform of considerable length alongside the building. This makes it easier to load large containers, including barrels of spray materials, onto farm trucks without too much lifting. Many of the containers can be rolled right onto the truck floor.

Fruit raisers, too, buy a great deal of fertilizer from this branch store. Last year more than 2,000 tons were sold. Mr. Fowler states that some raisers use from 1,000 lb. to 1,500 lb. per acre on fruit trees. He states he sells a lot of 5-10-10 for fruit land. He also sells a liquid concentrate fertilizer which can be mixed with water, ratio, 1 gal. to 50 gal. of water. Types sold include 20-20-20, also 10-8-6 and 8-8-8. This fertilizer is also in considerable demand.

"Fruit raisers really are interested in new fertilizers and spray materials," said Mr. Fowler. "They expect us to keep up on the latest products, which we do, and tell them about such items. In fact, in February our company has a big dinner for fruit raisers and farmers at a hall in this area. We usually have three speakers, movies, slides and exhibits. The meeting lasts many hours and raisers have an opportunity to ask questions about insect control, fertilization, etc. These educational meetings really pay off."

Sales slips on credit purchases are turned in to the Baltimore office and customers billed from there.

"When the season is in swing," states Mr. Fowler, "we are very busy here. Most of these fruit raisers use many gallons of spray materials and we've got to have enough here when they want it. Luckily our supply source is not too far away and we can usually give customers what they want when they want it. That helps to build a satisfied customer list."

Corn Borer Increase Possible in Delaware, Entomologist Says

NEWARK, DEL.—"The corn borer is one striking example of an insect that increases and decreases in a rather marked cyclical manner, meaning the borer population should not necessarily be expected to undergo further reduction this coming season."

A University of Delaware entomologist made this statement recently when he predicted that probably the borer will increase in Delaware this year, unless another season unfavorable as the past one for borers comes along next summer.

Dr. Herbert E. Milliron was considering a report issued recently by the U.S. Department of Agriculture that noted a borer decline in the eastern United States, reversing a trend of recent years. Corn borer numbers last year were reported to have been greater for the country as a whole than in the previous year.

County-wise in Delaware, Dr. Milliron said, the borer population last fall stacked up like this: There was an average 44 borers per 100 stalks over-wintering in New Castle County fields, 39 per 100 stalks in Kent County and 186 per 100 stalks in Sussex County.

A year earlier, university entomologists counted 219 borers per 100 stalks in New Castle County, 187 per 100 stalks in Kent County and 323 per 100 stalks in Sussex County. The state average per 100 stalks was 243 in 1956 and 90 in 1957.

This should not be interpreted to mean the corn borer problem is solved, the entomologist cautioned. Rather, he emphasized, control measures must be employed this year to get under a reported loss to borers last year of 133,000 bu. of corn valued at $177,000.

Dr. Milliron cited the drouth last summer as the most important cause of reduced borer numbers.

SHOP TALK

OVER THE COUNTER

By Emmet J. Hoffman
Croplife Marketing Editor

A large sales potential in pesticides is indicated in the U.S. Department of Agriculture's report on corn borer damage in 1957. USDA states that the corn borer in 1957 destroyed more than 181 million bushels of corn. This represents a cash loss to corn producers of about $160 million.

Measured in terms of protecting the corn crop, this looks like a big sales argument for the pesticide industry to use. It would appear to be economically sounder for the farmer to buy pesticides to fight the borer rather than pocket a large loss, or take the chance that the corn borer might skip his farm.

While USDA does not pin-point corn borer losses by individual farms, the government agency does, however, set up some extraordinary figures which should be readily available in the sales kit of each pesticide industry representative.

For example, the losses reported above amount to about 6% of the total national corn crop. Indifference of farmers to the corn borer robbery of farm corn income is growing in out of pocket drains to the corn farmer.

In 1956 crop year corn borer losses were reported to be only 98 million bushels in terms of harvested corn. Yet in the 1957 crop year the corn borer was pacing the field —it was breaking the four minute mile record and had run up its loss record to more than 181 million bushels.

In simple arithmetic this means that the corn borer was increasing its gain over the corn farmers by 85% in one crop year from another. Incidentally the 1956 corn borer loss was the third highest on record in the previous nine years.

The greatest damage to the corn crop from the borer was found by USDA to lay in the most important corn producing states of Iowa, Illinois, Nebraska, Missouri and South Dakota where nearly 160 million bushels of the corn borer damage for the 1957 crop was registered.

Projecting those figures into the national corn production totals, USDA says the corn borer picked the pockets of the corn farmer to the tune of more than $158 million.

The dollar losses to farmers in 1957 through corn borer damage are based on farm corn prices as of Dec. 15, 1957.

To say the least it is a pretty penny. It will sound mighty convincing for a pesticide industry salesman to take these official figures to his customers and say—"Well, sir, take a look at the record. An ounce of prevention is worth a pound of cure."

Virginia Dealer Expands Farm Chemical Lines

A multiple service to farmers is profitable for Gordon Fletcher, who operates a thriving farm chemical and farm supply company at Aldie, Va.

Mr. Fletcher can service the farmer who wants either dry or liquid fertilizer and he has two spraying outfits to do liquid spraying. Another profitable line is his custom weed spraying service.

Other lines handled are farm implements, seeds, feeds, appliances, petroleum products, garden and lawn tools, power mowers, garden tractors and farm hardware. They all tie in together, Mr. Fletcher says.

"We find that by carrying quite a few related or companion lines we have a stable, year-around volume," reports Mr. Fletcher.

"Fertilizer and feed account for 40% of our volume. Implements bring in 25%, farm appliances, farm hardware, etc., bring in the other 35%. Not any one line would keep this business operating profitably at its present levels, but all the lines now contribute their share to make this a one-stop farm store farmers like to patronize. We've been operating on this basis for the past five years," Mr. Fletcher says.

A full time outside salesman is employed.

Treatment Gives Longer Life to Fence Posts

URBANA, ILL.—Treated fence posts can last seven times as long as untreated posts. That's being proved by a fence post experiment now under way in the University of Illinois Department of Forestry.

Kenneth R. Peterson, research associate, reports that the department has about 1,500 fence posts on test under actual service conditions. Results are not final, since the tests are not finished. But after 11 years of service, 64% of the treated posts are still sound. Thirty one percent show partial decay and 5% have failed.

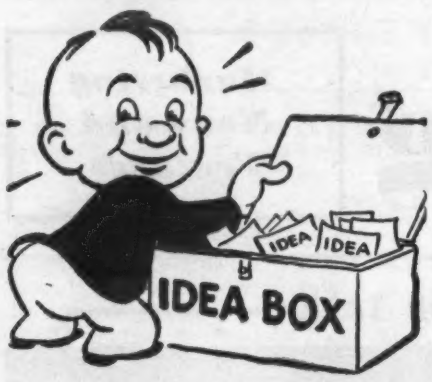
But only 9% of the untreated posts are still sound. Thirty seven percent are partially decayed and 54% have failed after less than five years of service.

Du Pont Adds Distribution Point for Dimethylamine

WILMINGTON, DEL. — DuPont's Grasselli chemicals department has announced the addition of dimethylamine dilution facilities at its Cleveland plant. Shipments of dimethylamine in aqueous solution will be made from that point in tank truck or tank car lots.

R. K. Stoll, Cleveland district manager, said the addition is being made to improve service to customers in the area, and to handle an increasing demand for the chemical.

Dimethylamine is used in the synthesis of organic products important to both agriculture and industry.



What's New...

In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

No. 5959—Alfalfa Seed Treatment

Details of a new systemic insecticide made by the American Cyanamid Co. to combat the spotted alfalfa aphid during the early stages of growth in alfalfa fields have been announced. The product, called by the trade name, Thimet, was recently cleared by the U.S. Food and Drug Administration for treatment of alfalfa seed prior to planting, according to Cyanamid. Officials state that this treatment "will control the spotted alfalfa aphid on seedling alfalfa plants for a period up to six weeks after emergence." Later the product breaks down so that there is no residue problem in the hay, it is claimed. Seed which has been coated with "Thimet" germinates and allows the product to be taken by the seedling rootlets into the plant where it remains up to six weeks. After the product's potency disappears, conventional type insecticidal sprays or dusts are suggested. Seeders need to be adjusted when treated seed is used because of the added bulk. Company officials state that leafhoppers, mites and other sucking type pests of alfalfa are also controlled through seed treatment. Details may be secured by checking No. 5959 on the coupon and mailing it to this publication. Please print or type name and address.

No. 6689—55-Gal. Steel Drum

Designed to save space and reduce handling and shipping costs, a new 55-gal. steel drum has been developed

to interlock with adjacent containers when any number are unitized or packed closely together. Ray E. Frase (left), manager of the special products department for Signode Steel Strapping Co., and Vern I. McCarthy, Jr., vice president of Vulcan Containers, Inc., point out the design of the rolling hoops which are the key to the interlocking feature of the new "Uni-Drum" container. When unitized, a group of the new drums can be handled by a standard lift truck, it is claimed. Transit damage can be reduced because the drums contact each other at their six strongest points, the officials say. The "Uni-Drum" was developed by Signode Steel Strapping Co. in conjunction with Vulcan Containers which will manufacture and market the container. Secure details by checking No. 6689 on the coupon and mailing it to Croplife.

No. 6688—Seed Stimulant

Merck & Co., Inc., has available a "technical service use direction sheet" describing "Gibrel Seed Stimulant 88." The material is intended primarily for seed producers and processors, and it discusses characteristics of the seed stimulant, directions for use, methods of treating seeds, resulting germination of treated seeds, and early growth of seedlings. It also lists seeds which respond to "Gibrel Seed Stimulant 88." Secure the sheet by checking No. 6688 on the coupon and mailing it to Croplife.

No. 6690—Soil Fumigant

"Mylone" pre-planting test applications on turf are giving good control of weed seeds, soil diseases, insects, and nematodes, according to Union Carbide Chemicals Company, Division of Union Carbide Corporation. The soil fumigant is now being used before planting to control soil pests in ornamental, tobacco, and certain vegetable seed beds, states Union Carbide. The company manufactures the basic chemical and supplies it to formulating companies which produce their own trademarked products, based on "Mylone," for commercial sale. The formulated dry product is distributed with a fertilizer spreader over the surface of the turf bed and then irigated into the soil. No plastic cover is needed on the bed. "Mylone" must be applied ahead of seeding or sprigging in the spring and allowed time to dissipate so it will not affect the young grass, the company explains. The product can also be used in the fall before spring planting. Secure details by checking No. 6690 on the coupon and mailing it to Croplife.

No. 5947—Bulk Materials Storing

The latest information concerning Day equipment for storing and handling bulk materials is contained in a bulletin prepared by the Day Co. Descriptions, specifications and dimensions of the company's vertical tanks and horizontal tanks are included. Pneumatic conveying systems, bulk material handling accessories and custom fabricating are also discussed. The bulletin contains photographs of typical bulk material tank installations.

Also Available

The following items have appeared in the What's New section of recent issues of Croplife. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.

No. 6682—Liquid Fertilizer Booklet

The Sohio Chemical Co. has prepared a detailed book dealing with liquid fertilizer manufacture. The book is entitled "Sohiogen Nitrogen Solutions." The company states, "As a service to our customers now operating liquid fertilizer manufacturing plants and those contemplating liquid fertilizer manufacture, we have attempted to consolidate information accumulated from various sources with our own recent research con-

tributions." Contents include liquid fertilizer definition and history, how liquid fertilizers are made, chemical and physical properties, how to formulate liquid fertilizers (calculations), handling nitrogen solutions, safety and "Sohiogen" products. Secure the booklet without charge by checking No. 6682 on the coupon and mailing it to Croplife. Please print name and address.

No. 5952—Dust Filter

Industrial dust control utilizing the new Day type "RJ" dust filter is described in an 8-page bulletin G-579. The cutaway view of filter shows working parts and the filtering principle. The bulletin includes facts on new design, efficiency and operation of the unit. Dimensions, specifications and illustrations of five basic "RJ" units for a wide variety of dust control applications are shown. Check No. 5952 on the coupon and send it to this publication to receive the bulletin. Please print or type name and address.

No. 6681—Valves

A free 6-page bulletin (J-160) provides information on "OPW-Jordan Sliding Gate Pressure Reducing Valves" manufactured by the Jordan Industrial Sales Division of OPW Corp. The bulletin describes valve features, design changes and method of operation with corrosive and non-corrosive liquids. It contains flow capacity charts, dimensional drawings, control ranges and material specifications. Check No. 6681 on the coupon and mail it to secure the bulletin. Please print or type name and address.

No. 5923—Bulk Scale

The newest addition to the materials-handling line of the Burrows Equipment Co. is a 1,000-lb. model 1200 bulk scale. Company officials said the "heavy-duty scale features a built-in Fairbanks-Morse scale to weigh any lot of material down to the ounce, accurately and quickly,

Send me information on the items marked:

☐ No. 5923—Bulk Scale	☐ No. 6683—Fertilizer Survey
☐ No. 5929—Tank, Flatbed	☐ No. 6684—Rock Phosphate
☐ No. 5952—Dust Filter	☐ No. 6685—Gibberellin Booklet
☐ No. 5947—Bulk Storage	☐ No. 6686—Fertilizer Applicator
☐ No. 5959—Seed Treatment	☐ No. 6687—pH Booklet
☐ No. 6680—Nozzles	☐ No. 6688—Seed Stimulant
☐ No. 6681—Valves	☐ No. 6689—55-Gallon Drum
☐ No. 6682—Liquid Fertilizer	☐ No. 6690—Soil Fumigant

(PLEASE PRINT OR TYPE)

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COMPANY .....

ADDRESS .....

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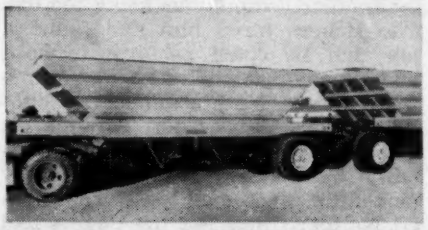
as it is handled." The unit is 38 in. high and 30 in. wide, and has a hopper 40 in. in length. All controls—two-wheel foot-brake, scale, dump handle and pushing handle—are located at the rear, within easy reach of the operator. Standard equipment includes 10 in. rubber wheels at the front and 6 in. roller bearing swivel casters at the rear. Details may be secured by checking No. 5923 on the coupon and mailing it to this publication.

No. 5929—Combination Tank, Flatbed

The Fruehauf Trailer Co. is producing a combination tank and flat-



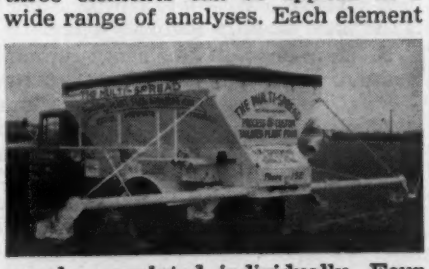
bed unit suitable for hauling bulk grain, rice, etc., in the tank. For hauling other products, the tank can be lifted out and the floor can be reinstalled, making the trailer a flatbed. Hopper-type units are illustrated. The company's semi-trailers are 23 ft. long and the 4-wheelers are 21 ft. long. Secure details by checking No. 5929 on the coupon and mailing it to this publication. Please print or type name and address.

No. 6685—Gibberellin Bulletin

An 18-page technical bulletin which reviews research findings on the uses of the gibberellins is available from Merck & Co., Inc. The company, which produces the plant growth stimulant under the registered trademark "Gibrel," says the bulletin is especially helpful to those with a technical background. The bulletin contains an annotated bibliography of 188 pertinent scientific papers. Check No. 6685 on the coupon and mail it to Croplife to secure the bulletin.

No. 6686—Plant Food Application

New literature on the "Multi-Spread Process" for distributing plant foods has been prepared by the process developer, A. A. Hurt, and the distributor of the equipment, Suamico Engineering Corp. The process permits the distribution of 25 lb. to 900 lb. per acre of total plant food (complete fertilizer), it is claimed. The three elements can be applied in a wide range of analyses. Each element



can be regulated individually. Four slow-speed fans take care of a 30-ft. spread. The equipment can be geared either through power take-off or from the truck's drive shaft. Distribution of the equipment will be through dealers whose inquiries are welcomed. Check No. 6686 on the coupon and mail it to Croplife.

No. 6687—Soil pH Booklet

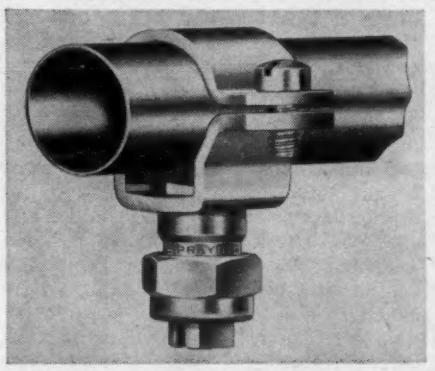
Bulletin 731—"What Every Plant Grower Should Know About Soil pH" has been prepared by Beckman/Scientific Instruments Division. The booklet contains charts, graphs, and illustrations—designed to help both the professional and amateur grower in achieving better lawns, bigger crop yields and more for his fertilizer dollar. The 16-page booklet, written by the well-known agricultural consultant, Dr. Robert E. Atkinson, may be obtained free of charge by checking No. 6687 on the coupon and mailing it to Croplife.

No. 6683—Fertilizer Buying Survey

A brochure entitled, "Four State Fertilizer Buying Study," has been prepared by National Analysts, Inc., for Nitrogen Division, Allied Chemical & Dye Corp. Four hundred farmers were interviewed in Michigan, Indiana, Illinois and Ohio and the results are presented in the brochure. Farmers who answered the survey questions said that the use of fertilizer more than any other single factor has accounted for improved crops and crop production. The brochure also indicates that the dealer is the main source of information about form, analysis and amount of fertilizer to be used. Check No. 6683 on the coupon and mail it to secure the brochure.

No. 6680—Spray Nozzles

A newly designed group of split-eyelet spray nozzles and connectors for mounting to spray booms has been announced by the Spraying Systems



Co. Company officials state that cadmium plated heavy steel that will not bend or break is used for the clamp for strength. Brass, aluminum or stainless steel are used for the parts that touch chemicals. The split-eyelet units are supplied as "No. 7421 TeeJet Split-Eyelet Spray Nozzles" and as "No. 7521 TeeJet Split-Eyelet Connectors." Sizes are offered to fit all standard spray boom piping and tubing, states the manufacturer. A wide range of interchangeable orifice tips may be used with the nozzles. Shown is the No. 7421 nozzle with flat spray tip. Secure details by checking No. 6680 on the coupon and mailing it to Croplife. Please print name and address.

No. 6684—Rock Phosphate Booklet

A periodical publication, "Bigger Acres," is made available by the Robin Jones Phosphate Co. to show the advantages of using finely ground rock phosphate in restoring depleted minerals in the soil. The publication details case studies to show how rock phosphate is used in increasing farm production at minimum cost. Well illustrated, the pamphlet is suitable for posting on a dealer's bulletin board. To receive the publication, check No. 6684 on the coupon and mail it to Croplife. Please print your name and address.

NEW ENGLAND NEWS NOTES

New England Farmers Reported In Good Financial Condition

New England farmers are in sound financial positions and can look forward to a good year despite a continued squeeze on net incomes, the Federal Reserve Bank of Boston's New England Farm Finance News says. Milk production will increase despite lower prices and the potato, egg and poultry outlook in general is good, the publication said. New England farmers face a good year, it concluded.

Farm Picture a Paradox

The farm picture in Massachusetts is still a paradox. Because fields are rough, small and stony, it would appear that agriculture is of little importance and non-prosperous in a highly industrialized state. However, despite high labor costs, and the shipping of grain here from hundreds of miles away at great expense, Massachusetts agriculture is flourishing as never before.

Farm production today in Massachusetts is running at $200,000,000 a year rate, according to the State Agriculture Commission. In 1944, the gross product of Massachusetts farms was worth $114,838,916. By 1949, it had jumped to $135,349,945.

Flood Planning Needed

Disastrous floods, such as occurred in New England in 1954 and 1955, following Hurricanes Diane, Connie and Carol could happen again "and must be planned for accordingly," according to 200 hydraulics engineers of the American Society of Civil Engineers at a recent meeting at Massachusetts Institute of Technology. The engineers appraised the effects of the 1954 and 1955 storms, which had disastrous effects on crops and farms.

Elliot F. Childs, chief of the hydrology and hydraulics section, New England division, Army Corps of Engineers, Boston, said that because "of the phenomenal magnitude" of the storm and floods of 1955, the engineers had found it necessary to reappraise their criteria for designing flood-control projects.

Planners of the future, he said, must recognize the fact that the occurrence of three major storms within two months in 1955 reemphasizes that these were not just "freaks of nature" and of such rare and infrequent occurrence that they "can't happen again."

Dry Rhode Island

Rhode Island, which was plagued by drouth the past fall, went on record with the second driest year in the 53 years records have been kept, according to the U.S. Weather Bureau station at Hillsgrove.

Total precipitation for the year was 30.08 inches, just beating out 1914 when 29.50 inches of rain fell on the state. The state entered December with only 24.22 inches recorded, but 5.86 inches during the month brought the total up.

Offer A Complete Line - Make More Sales and Profit With BLUE EQUIPMENT

DEPENDABLE FARM EQUIPMENT SINCE 1886

Have you ever lost a sale because some other dealer could offer a piece of equipment more suited to the job than you? With BLUE fertilizing equipment—wet or dry—you will have the most complete line of equipment on the market today. No longer need you miss sales. No longer need you lose customers when you can offer the most complete line of dependable equipment made.

BLUE OFFERS EVERY POSSIBLE TYPE OF FERTILIZER EQUIPMENT PLUS CUSTOM MADE RIGS!

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Get complete information now on this profit making line.

Right now, today! Write for complete information on the BLUE line of equipment. It includes tractor mounted rigs, trailer rigs . . . and all with the most accurate metering equipment manufactured today. See for yourself why you can make more profit with BLUE equipment.

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101

ANHYDROUS AMMONIA, NITROGEN SOLUTION AND LIQUID FERTILIZER APPLICATION EQUIPMENT — DDT GRANULATOR APPLICATORS — SOLID FERTILIZER SIDE-DRESSERS — TRANSFER PUMPS FOR ANHYDROUS AMMONIA AND LP GAS — DUSTERS — SPRAYERS

Public Relations for Small Business Owners

By Raymond W. Miller, President, and Robert W. Miller, Secretary
Public Relations Research Associates, Inc., Washington, D.C.

Recently in the Logan Airport terminal at Boston, two businessmen who had just arrived from the West were discussing food.

"How about getting something to eat?" said the first.

"Swell," replied the second. "Do you know any good places? I've never been here before."

"I haven't either," said the first, "but I think we ought to try Simpson's (name disguised). Everybody says the food is wonderful, and the service equally good."

"Really," said the second man, "that sounds fine."

"Many of our people make it a point to go there whenever they're in town," continued the first man. "They tell me they've never heard anything but praise for it."

Here is a small business which enjoys good public relations.

WHAT IS PUBLIC RELATIONS: One executive said: "Good public relations means doing the right thing, at the right time, in the right way, and at the right place."

Webster defines it as: "The activities of a corporation, union, government, or other organization in building and maintaining sound and productive relations with special publics such as customers, employees, or stockholders, and with the public at large, so as to adapt itself to its environment and interpret itself to society."

Public relations involves also a state of mind, one in which the businessman by his mental attitudes creates the social and often economic climate in which he operates. Every business has public relations whether it wants to or not. A firm cannot live like a hermit. It prospers and grows because of its relations with others. In all dealings with people it has public relations—good or bad largely by its own choice.

IMPACT ON SMALL CONCERNS: Being small does not reduce the significance of public relations problems, any more than being big assures their successful solution. All individuals necessarily have personal contacts with others and the number of these contacts is determined by the people they meet in the course of a normal day.

A movie star has a much bigger public than does a physician; likewise, a city traffic policeman has a larger public than does a dairy farmer. The same situation exists in business. At a busy passenger terminal, a small newsstand operator with two employees and a gross of $20,000 per year might, numerically, have many more public relations opportunities than a wholesaler having 30 employees and a $4-million-a-year volume.

Small marketers will be well advised to maintain cordial relations with all of the publics with which they deal both individually and collectively. Some of these groups are:

1. Current and prospective customers
2. Suppliers
3. Creditors
4. Employees
5. Employees' families
6. Press, radio, television
7. Competitors
8. Local educational institutions
9. Local civic organizations
10. Government
11. Stockholders (if any)
12. General public

Behind the growing need for public-relations consciousness is the fact that our total population is increasing at a tremendous rate. Although a business may handle only a limited line for a small number of customers, as the community grows, that shop will have new problems. They will develop because of the firm's proximity to others—with whom it may have no business, but many contacts.

Furthermore, hiring and holding competent people today is more complicated than it was a few years ago. Unless the executives of small businesses are alert to this situation, they will find (as many are now finding), that they get the leftovers. Often the best qualified people are drawn to the larger concerns. All of these public relations problems need study. They can be solved. In fact they must be solved if the business is to prosper.

SOME QUESTIONS AND ANSWERS ON PUBLIC RELATIONS: Owners and managers of small firms around the country often have similar questions on public relations and how it works. Here, for example, are seven of the most common queries and comments on them.

• **Can we buy public relations and measure precisely its results?** No. Public relations is an intangible thing. Essentially, it represents attitudes and state of mind, not ledger figures and physical inventories. It is having a "bank account" of dependable friends and allies. Bear in mind, also, that true friendship and goodwill are not for sale. Their acquisition is accomplished on a plane of the highest social, economic, and moral values or not at all.

• **What is the difference between public relations and advertising? Are they not the same thing?** No. Advertising, like everything else an organization does, is actually a part of the public relations program. Advertising is paid time or space with the intention of presenting the merits of certain items. It is, of course, a necessary part of almost every business. In addition, honest and attractive advertising is an effective aid to good company public relations. But it is not the whole endeavor.

• **Can we compartmentalize public relations?** Again, no. It represents the combined actions of every executive and employee of the company. While one person within an organization may act as "director of public relations," he must be primarily concerned with advising others as to the effect of their conduct, past or future, on the company's various publics. Genuine public relations is the accumulated performance of the entire organization from the president down.

• **How can we determine if our public relations is good or bad?** By asking questions and evaluating the answers you get. This is not an easy job, nor is it one that can ever be considered finished. Broadly speaking, business deals with a parade of people—not a crowd. The groups that are touched by your organization today will have new members tomorrow. However, by constantly analyzing the actions, statements, and attitudes of others toward your organization, and doing the same in regard to your own employees, a continuing human relations audit of opinions can be made—a sort of second balance sheet of acceptance of your business.

• **Can public relations be improved inexpensively by the small concern?** Yes. The understanding, or lack of it, of public relations may make the difference between success and failure in your business. Many times, doing nothing at all about public relations is more costly than a definite program. Good public relations need cost but little. It can be started from such beginnings as front office courtesy, cooperation in the trade, community interest, employee and customer loyalty, and consistent integrity in all dealings.

• **Who is responsible for public relations?** Everyone — president, salesman, truck driver, cleaning woman, stenographer, watchman — every member of the team. The big things in many a company public relations program are really lots of little things—like a cheerful greeting, a prompt reply to a letter, or a good word for a neighbor.

• **How soon can the public relations job be finished?** Never. Public relations is a never ending project. It goes on wherever the firm comes into contact with people. Each person gets an impression of some kind. The art of public relations is the intelligent attempt to make that impression a wholesome and productive one for every new person coming in contact with the company.

TWO CASES IN POINT: Public relations in small concerns is often made up of simple inexpensive actions such as those illustrated by the following cases (names disguised).

• **The "Martinson" Company.** Martinson was a small enterprise in the process of relocating. In the area to which it was going, little was known of the firm's methods, product line, or organization. Moreover, the community had had almost no experience with business concerns as such, and for that reason viewed the proposed newcomer with open hostility.

The public relations "program" adopted by Martinson's was as elementary as it was effective. The three top executives packed up and went to the town for a visit. They didn't do any business; they didn't make any surveys. They just came to get acquainted. They spent several days listening and talking with anyone who cared to meet with them—public officials, the press, the chamber of commerce, ministers, priests, rabbis, school teachers, potential suppliers of local goods and services, and others.

One of the company trucks was carefully driven about the streets "just to get acquainted," too. Hostility melted. When the company finally moved in it was "ours" to the community instead of "theirs" as it had been.

• **"Morris Baker."** A poor man, Baker had risked the savings of years in entering a highly competitive retail field. He was of a race and creed unlike that of the general community he wanted to serve. His competitors referred to him disparagingly. When he started, he had only one employee, his wife. They had a small stock of groceries, but an abundance of smiles and honest interest in their neighbors. Business grew very slowly.

NEW DESIGN—Owen Cooper, executive vice president of Coastal Chemical Corp., displays one of two new package designs recently developed by Union Bag-Camp Paper Corp. for Coastal's fertilizer plant in Pascagoula, Miss. The new $7.5 million plant produces various grades of pelletized, water-soluble high analysis fertilizer.

Their first employee was John Gilpin, an old man who had been "discarded" by another company as being too old. The Bakers hired him and found a job that he could perform to both his and their satisfaction. He became their unheralded and unlabelled public relations ambassador. Through his day-to-day efforts, resentment gradually disappeared. Trade gradually picked up. Customer loyalty developed. Neither Gilpin nor the Bakers had ever heard the name public relations. But they were experts at it.

These examples highlight ways in which practical, inexpensive public relations can pay off in terms of success, not only in money, but in satisfactions.

GETTING ADDITIONAL HELP AND GUIDANCE: Small business owners and managers have available exactly the same sources of help and guidance as do the larger companies. Here are five specific suggestions you may want to consider.

1. Join one of the trade associations in your particular line and get in touch with its public relations department. Most associations will have at least one man on this work.

2. Attend Chambers of Commerce and other community meetings whenever you can, and observe the public relations work of others through free and open discussion.

3. Get in touch with the local college or university. Often it will have a professor who is well informed on public relations questions. If you wish, he may also be able to help you employ a young man or woman for your business, part of whose responsibility could be to help you work out public relations problems.

4. Write to the Public Relations Society of America, Inc., at 2 West 46th Street, New York, N.Y., or to the American Public Relations Association at 1010 Vermont Avenue, N.W., Washington 5, D.C. Ask to be put in touch with a member of the organization who specializes in public relations for small businesses. There are several. This kind of professional assistance usually involves a fee.

5. The School of Business Administration, University of Texas, Austin, Texas, publishes a Public Relations Bibliography edited by Dr. William Nielander. This has been found to be of real value by many individuals and institutions engaged in exploring the public relations field. In it you will find listed the majority of the worthwhile publications on this subject.

For owners and managers of small marketing concerns who wish to have at hand a few books on the subject of public relations, the following selected references are suggested as representative of the many good volumes on the subject:

Public Relations Handbook, edited

Summary

Sooner or later, most small business owners are faced with public relations problems—a subject seemingly simple, but actually a diverse and complex intangible even in the hands of experts. What, then, is "public relations"?

Public relations as an activity of business is modern in name and as such has had many divergent concepts grafted onto it by accident or intent. Virtually anyone can enter the field. Hence, there has been a tendency for it to be credited with many programs which perhaps might better have been termed advertising, sales, or even plain management.

Twenty years ago there were relatively few public relations departments or advisers in the true sense. Today, the work of public relations is a recognized business function in industry and trade. There is still, however, a good deal of misunderstanding as to what public relations accomplishes. Because of wide interest in the subject and differences in opinion as to how public relations can help small business, the accompanying article has been prepared by the Small Business Administration, Washington.

by Philip Lesly, Prentice-Hall, Inc., Englewood Cliffs, Route 9W, N.J. 1956. $9.

Public Relations in the Local Community, by Louis B. Lundborg. Harper and Brothers, 49 East 33rd Street, New York 16, N.Y. 1950. $3.50.

Public Relations, by W. A. Nielander and R. W. Miller. The Ronald Press Company, 15 East 26th Street, New York 10, N.Y. 1951. $5.

Practical Public Relations, by R. F. Harlow and M. M. Black. Harper and Brothers, 40 East 33rd Street, New York 16, N.Y. 1952. $5.

Publicity for Prestige and Profit, by Howard Stephenson and W. F. Pratzner. McGraw-Hill Book Company, 330 West 42nd Street, New York 36, N.Y. 1953. $4.50.

Public Relations in Management, by J. H. Wright and B. H. Christian. McGraw-Hill Book Company, 330 West 42nd Street, New York 36, N.Y. 1949. $4.50.

CHECKING YOUR OWN PUBLIC RELATIONS: Following are 20 questions designed to help you size up how well you're doing on your own public relations. Give yourself five points for each "yes" answer. A score of 80 and above is very good. From 45 to 75 is about average. Anything below 45 indicates numerous opportunities for real improvement.

1. Do you have a policy that good public relations is a matter of top-management concern?

2. Do you constantly guard against having your business actions in conflict with public desires?

3. Do you have specific secondary goals such as informing the public about coming changes in your business policy, organization, or operation?

4. Do you recognize each of the groups which make up an important segment of your firm's public?

5. Do you take regular steps to see that each group receives the appreciation it deserves?

6. Do you maintain sympathetic and wholesome employe relations, even with temporary help?

7. Do you have an established system for informing all employes on what your firm stands for and how it functions?

8. Do you have an active program of community relations and cooperation?

9. Do you make periodic surveys of public attitudes towards your firm?

10. Do you analyze and use the results of these surveys?

11. Do you maintain the distinction in company thinking between public relations, and publicity as a tool of public relations?

12. Do you avoid high pressure tactics in your public relations activities?

13. Do you try to eliminate any unattractive aspects of company activities rather than simply "whitewash" them?

14. Do you make continuous and consistent efforts to improve your public relations skill instead of merely putting on sporadic drives?

15. Do you personalize, as far as possible, your company's relations with each segment of its public?

16. Do you make a conscious effort to understand how Government affects your business and to improve your relations with Government organizations?

17. Do you insist that all your company's actions be completely honest and sincere?

18. Do you have in your organization some one person to whom public relations responsibility and authority have been assigned?

19. Do you remind your employees constantly that selling, serving, and good public relations are inseparable?

20. Do you make it a point to consider what is best for the public at large as well as your own private interest when major business decisions are being made?

Gloomicides

The police inspector was at the hospital bedside of a concierge who had been badly burned in an explosion caused by gas.

"Tell me how it happened," he requested.

"Well, the tenant on the 1st floor came back late at night and had to ask me to let him into his apartment because he had mislaid his keys. When I opened the door he asked me if I smelled gas. I agreed that I did, and then he lit a match . . ."

"A match! That was the last thing to do!"

"Yes, it was the last thing he did!"

◆ ◆ ◆

A car screeched to a halt at an intersection and barely missed an old lady. I waited for the tongue lashing that I thought the woman was going to give the driver.

Instead of bawling him out, she just smiled sweetly and pointed to a pair of baby shoes dangling from his rear-view mirror.

"Young man," she asked, "why don't you put your shoes back on?"

◆ ◆ ◆

The big-game hunter was captured by jungle head-hunters who made a practice of shrinking and preserving their victims' heads. He was thought to be lost forever, but two years later he phoned his wife from a jungle outpost, saying he had escaped from the head-hunters.

"I need clothing," he told his wife over the phone. "The head-hunters fed me, but my clothing is completely gone. Send me some shirts, size 16 and a suit, size 38."

"Anything else?" asked the wife, happy that her husband was safe.

"Oh, yes," said the husband, "a hat—size one."

Two Indians, very close friends, were forced to separate for a few days while one went to the city on business. On his return the pilgrim rushed to his friend's teepee, rapped on the flap and asked the squaw to see his old friend Shortcake. She informed him his friend was dead. Stunned, the visitor walked off, then returned to see if there was anything he could do.

"Isn't there anything I can help you with?" he asked the squaw.

"No," was the solemn response.

"Can't I even help bury my friend?" the distressed one asked.

"No," the woman answered, and then added simply, "Squaw bury Shortcake."

◆ ◆ ◆

"What's my trouble, Doc?" asked the patient.

"I'm not sure exactly what's wrong with you," replied the doctor, "but if you were a building, you'd be condemned."

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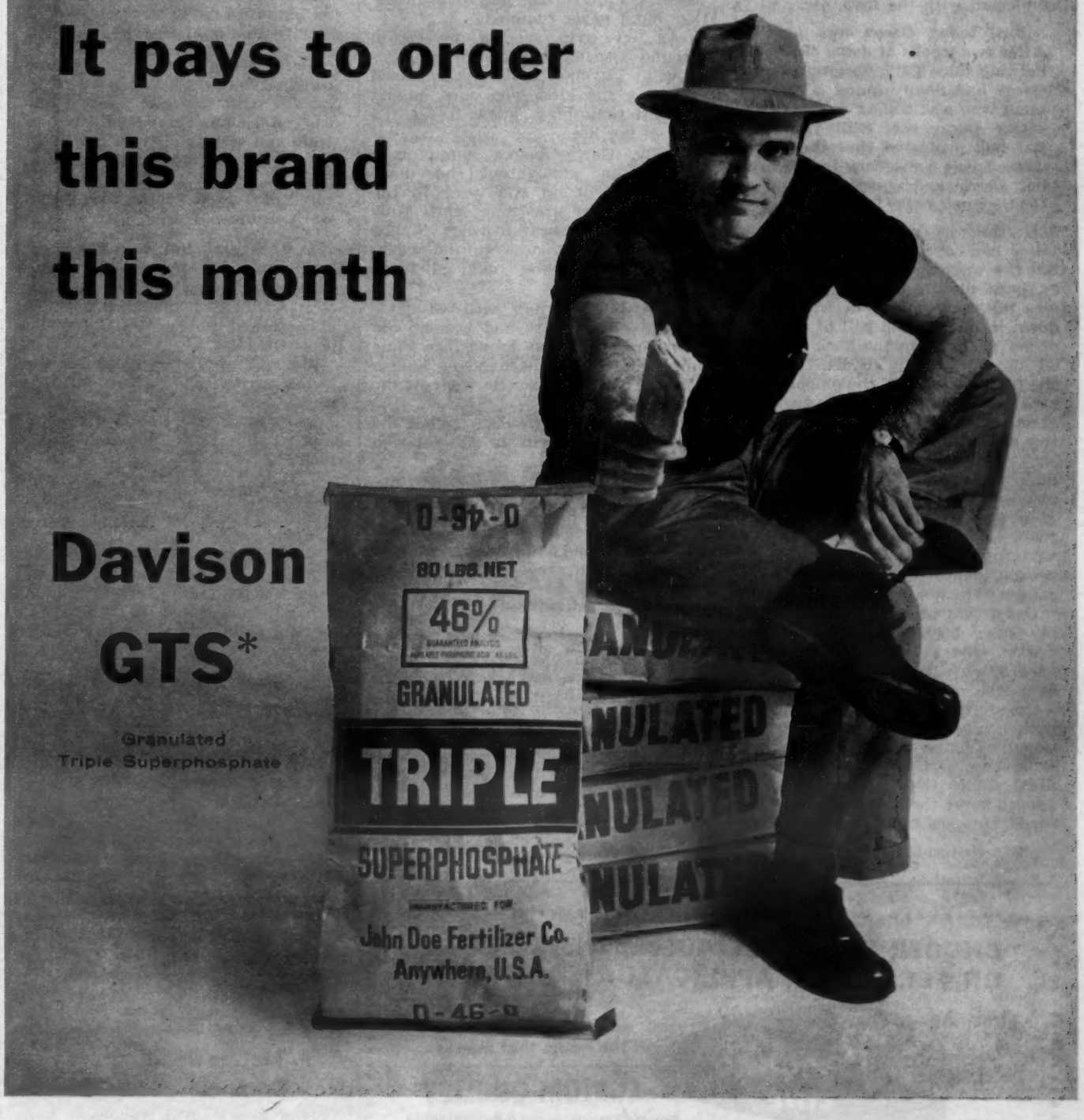

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Doing Business With

Oscar & Pat

By AL P. NELSON
Croplife Special Writer

Whenever Oscar Schoenfeld did something which saved money for his firm, he felt an inner glow that warmed him all day, even if it failed to thaw the coldness in his critical face. Oscar felt that the world's biggest trouble was financial. Too many people, including his partner, Pat McGillicuddy, spent too much money and paid too little attention to costs. Keep the money flowing in through sales—the expenses will fall in line, was the philosophy of many of these people, Oscar felt, and he didn't believe that philosophy.

Oscar was brought up in the old prairie school whose founders believed you should save one third of your salary, come what may. But the trouble was too many things did come along to frustrate this policy so far as Oscar was concerned—increased taxes, withholding, waste by others connected with the firm, etc.

But, today Oscar was pleased. After two weeks of doing the bookkeeping since Tillie Mason had quit, Oscar had finally found a replacement who was willing to accept the salary Oscar was willing to pay. Pat had protested that the salary offered was a disgrace to the firm, but Oscar had stood firm and so Gertie Jansen was hired.

Gertie was not exactly all that Oscar had hoped for, he soon realized, but the wage she accepted would not be hard to meet each week. Gertie was tall, had blond hair which came down in an alluring roll at the back of her neck. From the back she looked like a ravishing model, but when she turned her head, the onlooker was usually not pleased. Her eyes were too close together, her mouth too big, and she was always chewing gum. Also, she spent entirely too much time fiddling with her compact, applying powder and lipstick, and when a salesman entered, she stopped work entirely, and flashed one of her big devastating smiles. This come-on approach, however, seemed to shock salesmen instead of luring them.

Oscar had reviewed the farm supply store bookkeeping system with Gertie, who said she had had some experience with a bankrupt appliance firm, and also as a clerk in a hardware store. Oscar had even walked with her to the bank—the First National, of course—he was a stockholder in that and not in the Grisholm State Bank. Oscar had showed her how to make the deposit of the firm's funds, etc., and coached her carefully.

"Mr. Schoenfeld," Gertie said this morning as she stood beside his desk, chewing gum harder than Oscar liked, "we are all out of stamps."

"Oudt of stamps!" Oscar echoed. "Why, I bought $10 worth about a week ago, the day before we hired you. And there was about a dollar and a half worth of other stamps from the time before."

Gertie shook her head and smiled. "Sorry. I used the last one just a few minutes ago."

Frowning Oscar got up and walked over to Gertie's desk. He opened the center drawer and fiddled amongst the papers and pencils. Finally, he drew out a large sheaf of a memorial issue of stamps, slightly larger than regulation size.

"There they are!" he said critically. "You shouldt look a little more careful."

Gertie's eyes went wide. "Oh, are them stamps?" she giggled. "I saw 'em but I never tumbled."

An icy grip seemed to fasten around Oscar's heart. Gertie WAS slow in learning. Ardently he hoped she was the kind who once having learned something, knew it for the rest of her life.

Gaily, Gertie began humming a tune as she straightened her desk. Then she got up and went to the washroom for the umpteenth time that morning. Oscar frowned. Maybe he should put a desk in the washroom, too. Then she would get more work done.

A big burly farmer with two days' growth of whiskers and a none too pleasant look on his broad face came lumbering in. In his hand he held a piece of white paper. He went to the railed in enclosure.

"Hey, you!" he growled. "What the heck you guys tryin' to do—get rich in one month?"

Oscar turned to face Emory Randall, a very good customer.

"I bought $892 worth of fertilizer last month and had you guys spread it before the snow got too deep," Emory said accusingly. "I didn't buy $1,892 worth!"

Oscar looked at the statement Emory had and blinked.

"I will look it up."

"Look darn hard, too. I don't want two mistakes."

Oscar finally turned from the files. "Ach, you are right. It is only $892." He looked at Gertie's empty desk. "Somebody made a mistake."

"Oh, yeah," responded Randall caustically. "Them are the kind of mistakes I don't appreciate. Good by!" He turned and stomped out of the store.

With stern face, Oscar explained the mistake to Gertie when she came back 15 min. later to her desk. "I gave you a list of names to bill for fertilizer and the amounts!" he said angrily. "You will haf to be more careful!"

"Oh, I'm so sorry!" Gertie said in a special babylike, pouting voice she used on such occasions. "My fingers must have hit two keys at once. Did that ever happen to you?"

"No," snapped Oscar. "I don't type. I write."

Fuming, he sat at his desk. Finally, he said, "Now you can go to the bank. I have been there twice with you. Here is the money, the checks, the deposit slip and the bankbook. Ach, I have checked it carefully."

"Oh, sure," Gertie said gaily. "I just love to go to the bank." She got up quickly, tossed her blonde hair, looked in the mirror, put on her coat and hat. In a moment she was off in the direction of the bank.

Oscar stood at the window and watched her. He would have to be careful with this girl, even if she worked cheap. He would have to train and train and train her, until everything she did would suit him. He would show that Pat that he could pick good people who would work cheap.

He went back to his desk to work. Gertie was due to take her lunch period after going to the bank, then Oscar would go home to eat.

He worked quite a while, and then the phone rang.

"Hello, Oscar, this is Ed Stevens, cashier at the State Bank of Grisholm."

"Yah, what you want with me? I bank at the First National. I own stock there."

"I know," said Stevens, "but for a moment I hoped you had decided to do business with us."

"Ach, why?"

"Well, your new stenographer walked in here about 15 minutes ago and made a deposit. She flirted so much with our new teller that he didn't notice that the deposit was supposed to have been made at the First National. She was gone when we discovered the mistake. What do you want us to do?"

"Himmel!" cried Oscar. "I am coming over right away. Das is genug!"

Angrily he put on his worn overcoat and shabby felt hat and went to the warehouse door. "Cochran!" he yelled back to one of the employees. "Come in the office and eat your lunch here till I get back. I'm going to the bank!"

Oscar hurried back to his desk and broke three pencil points writing out a note, using many exclamation marks. Fuming, he took it over to Gertie's typewriter and slipped it into the machine. The copy read "You Are Fired—Now! ! !"

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A. P. McKeown in New Post with AACCO

NEW YORK—The American Agricultural Chemical Co. has announced that A. P. McKeown, formerly chemist at its Pierce, Fla. chemical control laboratory, has become responsible as chief chemist of the chemical control laboratory at Carteret, N.J.

FLORIDA TONNAGE

TALLAHASSEE, FLA.—December fertilizer shipments in Florida totaled 172,381 tons, according to the Florida Department of Agriculture. This included 120,098 tons of mixed goods and 52,283 tons of materials.

Number of Soil Tests Sets Record in New York

ITHACA, N.Y.—Future Farmers of America helped set a record for the number of farm soil samples sent to the New York soil test laboratory in 1957. FFA chapters in some 175 schools helped farmers collect samples of soil in their fields. They collected more than 14,000 samples, for analysis at New York State College of Agriculture at Cornell University. The soil samples came from more than 2,700 farms.

Thomas Greweling, director of laboratories in the college department of agronomy, reported 36,000 samples were received in 1957. This is an all time high, he said, and 16,000 more than received in 1956.

FFA members collected samples last October, November and December. The program was sponsored by Cooperative G.L.F. Exchange, Ithaca, and G.L.F. service agencies, who contributed 40¢ per sample to FFA chapters. G.L.F. also paid the $1 analysis fee for samples taken on farms of FFA members and G.L.F. members.

Superphosphate Production, Shipments Show Decline

WASHINGTON — November production of superphosphate and other phosphatic materials totaled 205,821 short tons, compared with 208,098 short tons in November, 1956, according to the U.S. Department of Commerce. Shipments last November amounted to 122,507 short tons, a decline from 145,405 short tons in November, 1956. Stocks on hand at the end of last November totaled 369,039 short tons, down from 401,524 short tons a year earlier.

The November, 1957 output included 113,624 short tons of normal and enriched, 73,598 short tons of concentrated and 18,599 short tons of other phosphatic fertilizers, including wet-base goods.

New Grape Disease Found in California

BERKELEY, CAL.—A new, smog-caused disease of grapes has been found in four Southern California counties.

Called stipple disease because of the stippling or dotting effect it produces on leaves, the injury is serious because it causes early leaf drop and exposure of ripening grapes, according to John T. Middleton, chairman of the department of plant pathology, University of California, Riverside.

Mr. Middleton, B. L. Richards, Kaiser Steel Co. consultant, and W. B. Hewitt, professor of plant pathology on the Davis campus, have found stipple disease in Riverside, San Bernardino, Los Angeles and Orange counties, but not as yet in northern grape producing counties.

Ozone appears to be its cause. Symptoms on vineyard grapes exposed to polluted air containing ozone and those on grapes fumigated with ozone alone were virtually identical. This is the first time that ozone has been shown to cause injury to a field-grown crop, the scientists report.

Dow Establishes Dallas Sales Office

MIDLAND, MICH.—The Dow Chemical Co. has announced the opening of a new sales office Feb. 3 in the Dallas Federal Bldg., 1505 Elm St., Dallas. Donald P. Camp, former head of chemicals sales with the company's Houston office, has been appointed manager.

Mr. Camp started with the company in 1949. Before going to Dallas he held sales posts at Midland, company headquarters, and St. Louis in addition to Houston. A native of Homer, La., Mr. Camp was educated at Rice Institute. He holds B.S. and M.S. degrees in chemical engineering.

FARM SERVICE DATA

Extension Station Reports

Results from University of Maryland tobacco research plots give reassurance to farmers who depend on soil tests as a guide for applying fertilizer.

The "test for soil tests" was set up this way: Tests were made on soil samples from research plots which had been treated with different rates of phosphorus and potash and on which yields of tobacco had been obtained. Technicians in the soils testing laboratory did not know what the treatments were.

Afterwards, soil test readings were compared with yields on the various plots. Here is a sample of the results:

1. Where no phosphorus was applied, the soil test showed a reading of 29 lb. of available P_2O_5 per acre. The crop yield was 803 lb. per acre.

2. On the plot where 90 lb. of P_2O_5 was applied, the soil test reading was 105 lb. per acre and the crop yield was 942 lb. per acre.

3. Where 180 lb. of P_2O_5 was applied, the soil test reading was 205 lb. per acre and the crop yield was 1,000 lb. per acre.

Similar results were obtained for applications of potash in comparison with soil test readings.

★

A new recommendation is being made this year for control of the alfalfa weevil, a pest which is now believed to be in all counties in Virginia.

Dr. J. O. Rowell, entomologist, says the granulated form of heptachlor has advantages over heptachlor spray, which was used last year.

Tests made by Virginia Polytechnic Institute Agricultural Experiment Station have shown that the weevil can be effectively controlled by the application of 2½% granulated heptachlor, which is available ready-prepared, and which requires no mixing. From 40 to 60 lb. of the 2½% granulated heptachlor per acre should be used.

Application should be made during the last week of February or during the first week in March. Early treatment is directed mainly at the overwintered alfalfa weevil, and eliminates any danger of toxic residue. Only one treatment is necessary with the granulated form.

The insecticide can be applied with fertilizer-lime spreaders, or with hand-operated cyclone-type seeders where only small acreage or small plots of alfalfa are involved. Equipment should be calibrated accurately and regulators adjusted and set to deliver the recommended amount.

Dr. Rowell summarizes several advantages of the granulated heptachlor:

It is applied before growth of alfalfa and/or weeds starts in the spring, thus eliminating toxic residue on the harvested crop and any possibility of toxic poisoning to honeybees.

It is applied when equipment and labor are not tied up with other farm chores and when the alfalfa will not be damaged under the wheels of heavy equipment. It can be applied with equipment which is usually already on the farm.

The granulated treatment gives reasonably effective control also for spittlebug, clover root curculio, and clover root borer, sometimes important pests of alfalfa.

The main disadvantage is the high cost of the insecticide. It will probably cost around $5.50 per acre for the one treatment of granulated heptachlor each year. However, where two or more spray treatments are needed, the cost of the spray treatment is probably as much as the granulated heptachlor treatment.

Dr. Rowell says that once alfalfa weevils infest a field, they usually cause damage year after year. If alfalfa is to be grown in the infested areas, insecticides must be used to protect the crop.

★

Just how serious mite infestations in apple orchards may be when measured in reduced yields has been demonstrated in observations made by Cornell University entomologists at the Experiment Station at Geneva.

Research at the station has established that one severe infestation of these tiny, spider-like creatures may reduce apple yields by as much as 500 bu. to the acre over a two-year period.

"Feeding by mites seriously devitalizes the leaves of apple trees with consequent reduction in yield and even partial defoliation of the tree," say the station scientists. "Mites are small in size, but this is more than offset by their great numbers and the rapidity with which they multiply. At peak activity it is not unusual to find 500 eggs and hatched mites on a single leaf."

Mites feed on the leaves of a wide variety of plants, with one of the best known examples being the so-called red spider of the greenhouse and many house plants, explain the station workers.

A number of species attack fruit crops. In New York State, five are found in apple orchards, with the European red mite and the two-spotted spider mite being the most important.

"Because of their tiny size, mites present problems to the experimenter in maintaining cultures and in determining the number present on trees," continue the entomologists. "At Geneva we are using a machine for brushing mites off of apple leaves onto glass plates where they can be readily counted. We have also devised cells encircled with an 'electric fence' in which we can confine individual mites for testing the effectiveness of pesticides. By means of these and other laboratory technics and by orchard tests, we are finding ways to reduce losses from these pests."

★

Virus diseases of plants and animals, while shaping man's destiny for centuries, are still among the least understood enemies of living things, says John S. Boyle, associate professor of plant pathology at Pennsylvania State University.

"Viruses might be called the smallest and simplest of living things, except no one is sure that they are alive," Dr. Boyle states. "They don't grow, they have no respiration, and they multiply only within living cells," he explains.

Viruses cause human diseases, such as mumps, measles, small pox, yellow fever, polio, influenza, and other ailments. While vaccines are effective in the control of some diseases, viruses are among the most serious parasites of man and animals.

Approximately 12 plant viruses have been chemically purified and crystallized. Structurally, the particles are rod shaped or spherical.

Most recently, scientific reports indicate that the tobacco mosaic virus may be disassembled and reassembled. This excites the imagination, Dr. Boyle points out. Viruses are so small that they pass through bacterial-proof filters.

Tobacco mosaic virus was recently shown by Dr. Boyle to be the cause of internal browning of tomatoes, a disease which has caused great losses some years in Pennsylvania canning crops. This virus attacks both tobacco and tomato plants. This is not the only known case where a virus attacks more than one species of plants or animals.

Several hundred virus diseases of plants are known, an average of two or three per crop requiring control measures, Dr. Boyle reports. Control measures include developing plant resistance, planting non-infected plants or seeds, and destroying insects which transmit the virus.

★

Potash is the key to high yields and long life of alfalfa stands in New Jersey. This was concluded from a 5-year study conducted at Rutgers University by John L. Gerwig and Gilbert H. Ahlgren, farm crops specialists, which included fertilizer treatments of 0 to 200 lb. of nitrogen, 0 to 400 lb. of P_2O_5, and 0 to 400 lb. of K_2O in various combinations. The fertilizer was applied each spring before the alfalfa broke dormancy.

Of course, proper management methods must be used along with sufficient fertilizer, the specialists say. This experiment was seeded in August, 1952, with 500 pounds of 5-10-10 applied as the initial fertilizer application. Insect damage was prevented by the use of chemical sprays, and the forage was harvested at the proper stage of maturity.

Nitrogen was beneficial the year following establishment, but thereafter was detrimental to the stand. This would indicate that the alfalfa needed more nitrogen than the young stand was able to fix.

However, after it became established, it was better not to supply supplemental nitrogen. The decrease in yield was brought about primarily due to the encouragement of weedy species that replaced the alfalfa.

Throughout the course of the 5-year study, phosphorus had no effect on yield. At the time the study was initiated, soil tests indicated that the soil was average as far as phosphorus was concerned. Although each additional increment of P_2O_5 increased the phosphorus content of the alfalfa, no increase in yield or persistence was recorded.

Increases in yield and in number of plants per square foot were recorded with each increment of potash applied up to the 200-pound level.

Higher rates were not beneficial. Potassium deficiency decreased the stand by as much as 98% on those areas receiving no potash during the 5-year study.

Similar observations have been made throughout the state, and the use of higher rates of potash than were previously thought to be needed is being encouraged.

Therefore, it would seem essential that New Jersey farmers supply sufficient potash to alfalfa stands if they are to remain productive over a period of years, the specialists state.

Virginia-Carolina Net Income Shows Gain

RICHMOND, VA. — Net sales of Virginia-Carolina Chemical Corp. and consolidated subsidiary companies during the six months ended last Dec. 31 totaled $20,124,853, compared with $21,826,796 during a comparable period a year earlier.

Net income after income taxes is $25,262 for the 1957 period, compared with a loss of $468,418 for the 1956 period.

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WEED OF THE WEEK

Mr. Dealer—Cut out this page for your bulletin board

Perennial Ragweed

(Ambrosia psilostachya)

How to Identify

The plant stems stand erect, usually less than 20 inches tall, heavily branched, with alternate or opposite leaves. Stems are rather stout, branched, hairy and, when mature, become woody. Leaves are light green in color, and about three or four inches long, divided into numerous parts.

Characteristics of Ragweed

This weed reproduces by seed and underground rootstocks. It is found in waste places, pastures, meadows, and by roadsides. It resembles common ragweed in appearance, but has a perennial root and a shorter, less bushy stem.

Damage Done by Ragweed

The abundance of yellow pollen produced by the plant is a prime cause of hay fever in human beings. To anyone thus afflicted, all other of the plant's shortcomings are inconsequential. However, ragweed is an unsightly, persistent plant which infests meadows and pastures and tends to take over complete areas where it chokes out other more valuable vegetation. However, it is not troublesome in cultivated land.

Control of Ragweed

Fortunately, ragweed is susceptible to the action of 2,4-D, 2,4,5-T and other chemicals which have been successful in practically eradicating it from certain small areas. Community drives toward eliminating this hay fever-inducing plant from cities, towns and counties have been largely successful. Vacant lots in cities when sprayed with herbicides, cease to be public health menaces as far as ragweed is concerned.

Illustration of Ragweed furnished through the courtesy of the U.S. Department of Agriculture.

WISCONSIN DEALERS

(Continued from page 1)

Beatty said. Local variations can be found only through soil testing, and the National Plant Food Institute found in a recent survey that a great many farmers do not make use of such tests.

Kermit C. Berger, University of Wisconsin researcher, presented convincing evidence of the recent trend to high analysis fertilizer. In the decade leading up to 1956, Wisconsin's commercial fertilizer input increased 39% to 426,000 tons. But actual plant food in fertilizer went up 116% to 160,000 tons.

Heavier fertilization has helped boost Wisconsin's average corn yield from 45 bu. in the late 1940's to 60-65 bu. today. In 1946, 2-12-6 was the most used fertilizer in the state. In 1956, 5-20-20 led.

Among other important fertilizer trends, Mr. Berger cited better placement equipment for corn and other row crops, frequent use of granulated types that mix well with the soil, and the discovery and use of many trace elements.

To find out how improved fertilizer management might best be encouraged, the National Plant Food Institute recently conducted a nationwide survey on farmer attitudes.

Z. H. Beers, midwest regional director of the institute, reported that farmers generally felt they were managing their soil about as well as they could. Many did not realize that more efficient fertilization would cut production costs per bushel and per ton.

Most of the farmers surveyed showed pessimism about costs and prices. Hardly one in five expected conditions to improve in the foreseeable future, and nearly one half could see only rougher sledding ahead. Only about one third expected to increase their farm investment in the next five years.

Dealers were rated the most common source of advice, pointing up the importance of cooperation between experiment station agronomists and the fertilizer industry. Mr. Beers reported that the National Plant Food Institute will continue to sponsor an annual joint meeting of representatives from the two groups.

Wisconsin farmers used about 400,000 tons of commercial fertilizer in 1956-57. They'd have had to use a million tons to break even in the soil fertility bank, according to a statement presented for Clinton J. Chapman, soils specialist.

Mr. Chapman, who was ill and not able to attend the session, submitted a report based on research results in the Badger state which indicated that in many cases doubling the conventional 250 lb. per acre would pay. High potash applications have proved especially profitable, he said.

The many farmers who cannot afford to wait while legumes carry the full load of getting their fields into top shape have found an able helper in synthetic nitrogen, Mr. Chapman said.

He said that nitrogen cannot take the place of lime and secondary and trace minerals. Heavy nitrogen fertilization has been an important development in American agriculture, he concluded. It increases the effort needed to balance available nutrients with lime, phosphate, and potash.

Recent results do not support the traditional idea that part of a lime application must go on before and part after plowing. As long as the lime is well mixed with the soil, James R. Love and Richard B. Corey, Wisconsin soils specialists, have concluded that it might as well go on in one application either before or after plowing. Experiment station studies have shown no difference between the two times with proper mixing.

Lime pays handsome dividends, often $10-25 per dollar invested, Mr. Love and Mr. Corey said.

Less directly, increased moisture and nutrient storage capacity bring large, healthy plants. More organic matter results, meaning better soil structure. And good ground cover cuts erosion by helping to break the impact of rain drops.

Lime serves as a valuable calcium and magnesium fertilizer. At the same time, it restores the balance between hydrogen and exchangeable bases (mainly calcium and magnesium) in the soil, the researchers said. This:

1. Increases the protein content of legumes by providing more available nitrogen.

2. Helps soil microorganisms that fix nitrogen, convert nitrogen compounds into available forms, and release nitrogen and phosphorus from organic matter.

3. Frees phosphorus from fixed forms in the soil and makes it available to plants.

4. Avoids manganese and aluminum toxicity often found in acid soils having too much of these elements.

Lime is especially important in top hay-producing states like Wisconsin, the dealers were reminded. Government programs have provided millions of tons of low-cost lime in Wisconsin alone. Yet, at least one half of the 200,000 soil tests made in the state during 1957 showed a need for lime.

Thousands of these fields have been limed once or twice, but the lime-eating alfalfa and clover crops had lowered their pH.

Once a field has been limed to pH 6.5-7.0, one or two tons every ten years will maintain this level, Mr. Love and Mr. Corey said. Lime helps most crops and leaches very little, so farmers should apply it well ahead of legume planting to neutralize soil acids.

Omar Sanders Retained As Potash Consultant

NEW YORK—Omar Sanders has been retained by National Potash Co. as a consultant and to assist in its sales activities, according to an announcement by William B. Porterfield, vice president and sales manager.

Mr. Sanders, well known in the fertilizer industry, has been in the trade for 40 years. After a 16-year stint with Armour Fertilizer Works, he became manager, in 1934, of the newly-formed Fertilizer Industries, Inc. He remained in this position until his retirement in June, 1957.

RUSSELL H. DUNHAM DIES

WILMINGTON, DEL.—Russell H. Dunham, first president and chairman of the board of Hercules Powder Co., died here recently. Mr. Dunham retired as Hercules president in 1939, but remained as a director of the firm until 1956.

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U. S. TERMINALS: Houston, Texas Chicago, Illinois East Liverpool, Ohio Madison, Indiana Brownsville, Texas
EUROPEAN TERMINALS: Dordrecht (Rotterdam), Netherlands Antwerp, Belgium Ludwigshafen, Germany Livorno (Leghorn), Italy

SPRAY SCHOOL TOLD

Insecticide Treatment Brings Profit of $2.7 Million to Illinois Farmers in 1957

URBANA, ILL.—Despite one of the heaviest snow storms in years, more than 600 custom spray operators, dealers, farm advisers, sales representatives and farmers gathered for the 10th Custom Spray Operators' Training School on the University of Illinois campus here recently.

H. B. Petty and Clarence White, entomologists for the University of Illinois College of Agriculture and State Natural History Survey, reported that Illinois farmers treated about 934,000 acres with insecticides during 1957. They estimate a profit of almost $2.7 million from these treatments. Soil insects received the most attention with about 657,000 acres being treated. Next high was corn borers with 165,000 acres treated. Farmers treated about half of their own fields, and commercial operators did the other half.

The outlook for European corn borer in 1958 is far more favorable than it has been for the past few years. Highest populations in the fall survey were found in west central Illinois, but these counts were below the last two years.

Mr. Petty reported that one of the most favorable things observed in last year's survey was the high numbers of diseased corn borers found. The entomologist said he does not expect a great need for corn borer insecticide treatment for the first generation unless weather conditions are extremely ideal. If conditions should be favorable, the second generation could develop into a serious problem.

The fall survey also showed grasshoppers have a slight potential in northwestern and western Illinois. If June is dry, some localized outbreaks in the most heavily infested areas may be expected, Mr. Petty said.

Mr. Petty also reported that spittlebugs were rather abundant in the northern third of Illinois and first cuttings of hay in some fields were damaged in 1957. The fall spittlebugs were rather abundant in the northern third of Illinois and first cuttings of hay in some fields were damaged in 1957. The fall spittlebug survey shows that northern Illinois may have one of the most serious spittlebug infestations yet seen in that area.

The spotted alfalfa aphid did not present a serious problem in Illinois during 1957. Timely rains largely controlled the small populations that did appear, the entomologist explained. Since this pest does not overwinter in Illinois, it must migrate in from the southwest. A dry, late summer and early fall could lead to damage on fall seedings in southern and western Illinois.

J. H. Bigger reported soil insecticide research has been conducted in cooperation with 37 farmers on 51 fields. Over the four years from 1953-56, Mr. Bigger recommended use of 1.5 lb. of either aldrin or heptachlor per acre broadcast and disked in ahead of planting. Figures show that the treatment pays for itself 66% of the time, and pays 100% dividends 43% of the time, 200% or more 25% of the time. It looks like a good insurance risk, Mr. Bigger said.

J. W. Pendleton, University of Illinois agronomist, reported 1957 research on the destructiveness of giant foxtail. Corn and soybeans were planted in a field known to be infested with giant foxtail. The plots were cultivated but a 3-inch band was left uncultivated in the row where the corn and soybeans were planted.

On the corn plants where the 3-inch band of foxtail was left to grow, the corn yielded only 74.3 bu. an acre. Where the foxtail was completely removed, the corn yielded 100 bu. On plots where the foxtail was partly removed, the corn yields increased progressively to the top yield on the weed free plot.

On the soybean plots, the weed-free plot yielded 43.1 bu. an acre. Where the 3-inch band of foxtail remained with the soybean plants, the yields dropped to 26 bu.

Since 1957 was the first year of this study, it will be repeated to check results for two more years.

F. W. Slife reported on new control measures for Johnson grass. He stated that although Dowpon does not eliminate the Johnson grass problem, it eliminates a large part of the old grass and allows corn and soybeans to make early normal yields.

ILLINOIS SPRAY SCHOOL—Early arrivals at the Illinois Custom Spray School get program preview from H. B. Petty, school chairman, kneeling, in top photo. They are, left to right, Don Joyce, General Chemical Division, Allied Chemical and Dye Corp., Chicago; W. A. Blystone, commercial spray operator, Pontiac; Fred Osterbur, Jr., spray operator, Royal; and G. K. Robins, G. S. Robins Co., St. Louis. Shown in a huddle in the lower photo are Earl Grossman, Lee County Service Co., Amboy; Mr. Petty; Richard E. Ritenour, Rit's Aerial Spray Service, Polo; William Sass, ground sprayer, Ancoma; Gaylen Harris, spray operator, Northwood, Iowa; and Charles Knote, Cape Chemical Co., Cape Girardeau, Mo.

North Central ESA To Meet in St. Louis

ST. LOUIS—The 13th annual conference of the North Central Branch of the Entomological Society of America will meet at the Sheraton-Jefferson Hotel, St. Louis, March 26-28. Over 400 entomologists from the Midwest are expected to attend.

Some of the highlights of the program will include:

A message from the Entomological Society of America by Dr. Robert L. Metcalf, University of California, ESA president; world program for elimination of malaria by Dr. Fred L. Soper, director, Pan American Sanitary Bureau, World Health Organization; report of the International Congress of Crop Protection, Hamburg, Germany, and of visits to entomological laboratories in Europe and Great Britain, by Dr. Randall Latta, head, stored-product insects section, U.S. Department of Agriculture; genetics as a tool in entomology, by Dr. Walter Rothenbuhler, Iowa State College; report of 18 months in the Philippines by R. W. Dean, New York Agricultural Experiment Station, Geneva, N.Y., and the cricket on a diet by Dr. Philip C. Stone, University of Missouri.

There will be 16 discussion sections covering a wide range of subject matter: Forest and shade tree insects; cereal, forage and truck crop insects; fruit insects; systematics—classifications of insects; insect testing and rearing; medical and veterinary entomology; survey methods, and insecticides.

LABELING CONFERENCE

WASHINGTON—The Manufacturing Chemists' Assn. will hold its 1958 Precautionary Labeling Conference April 30 at the Shamrock Hotel in Houston. Approximately 250 representatives of industry and government are expected. Problems and requirements indigenous to the labeling of packaged products of the chemical and related industries will be discussed.

F. Herbert Mackay

F. Herbert Mackay Joins Hubbard-Hall

WATERBURY, CONN. — Appointment of F. Herbert Mackay, formerly vice president of Olds & Whipple, Inc., to a position in the Hubbard-Hall Chemical Co.'s agricultural division, has been announced by Edward R. Jones, executive vice president and treasurer of the firm.

Mr. Mackay, who is the grandson of the late Frank H. Whipple, who founded Olds & Whipple 81 years ago, will be concerned chiefly with the purchase, production and sale of fertilizers designed for growing tobacco. He will make his headquarters at Hubbard-Hall's Waterbury office.

Prior to his appointment to the Hubbard-Hall staff, Mr. Mackay was vice president and treasurer of Olds & Whipple, Inc., Hartford, Conn. With Olds & Whipple since 1947, he was in charge of fertilizer production and materials purchasing for that firm, prior to its liquidation.

Dealers' Day

PORTLAND, ORE. — The Pacific Northwest Plant Food Assn. in cooperation with Washington State College will sponsor a Fertilizer Dealers' Day at Chehalis, Wash. March 10. Arrangements for this day have been made by Grant Braun, chairman of the association's Soil Improvement Committee, and Todd Tremblay, Northwest representative of the National Plant Food Institute. A program is being arranged suited to the needs of the fertilizer dealer. The meeting is one of a series planned by the association in cooperation with the agricultural colleges of the Pacific Northwest.

W. M. Gannon T. J. Fleischman

NEW APPOINTMENTS—Thomas J. Fleischman, assistant manager in charge of sales and production of the western district of the multiwall packaging division, St. Regis Paper Co., has been appointed manager of that district. He succeeds the late Robin G. Swain. Mr. Fleischman has been with St. Regis since 1950. Warren M. Gannon, sales manager of the firm's Los Angeles territory since 1955, has been appointed sales manager of the multiwall packaging division's western district.

Heyden Newport Starts Production Of New Herbicides

NEW YORK—Heyden Newport Chemical Corp. has started commercial production of a new group of herbicidal compounds based on 2,3,6-trichlorobenzoic acid in recently completed facilities at its Fords, N.J. works.

The announcement was made here Feb. 5 by Simon Askin, president of Heyden Newport, who said it marks the culmination of more than five years of intensive research, development and field evaluations of these compounds. Patent applications by Heyden Newport covering the new materials are pending in the U.S. and more than 25 foreign countries.

The new herbicide plant which has been on stream for several months is Heyden Newport's first commercial application in the field of agricultural chemicals of its traditional technology in the manufacture of chlorinated cyclic compounds.

The firm said that herbicides based on the new compounds show promise for "control of bindweed and other deep-rooted perennial weeds on agricultural lands and industrial areas at reasonable cost."

A world-wide marketing program, effective commencing this year, is now under preparation and will be announced shortly. Meanwhile tonnage commercial shipments have already been made abroad under special arrangements. The new herbicides will be made available for commercial use here during the 1958 growing season. Ultimate multi-million pound production is anticipated, the firm said.

Michigan Chemical Net Sales Show Gain

SAINT LOUIS, MICH.—Michigan Chemical Corp. has reported net sales of $9,571,000 for 1957. This was an increase of 44% over 1956, according to the company's 1957 annual report to stockholders. Sales for 1956 were $6,641,000.

Net income after taxes for 1957 was $753,000 as compared to $356,000 in the previous year. This was equal to a net profit of $1.09 a share of stock based on the average number of shares outstanding in 1957. In 1956, the net income was 66¢ a share on the average number of shares outstanding.

South Dakota Meetings

BROOKINGS, S.D. — A series of five education meetings for dealers in commercial fertilizer and county extension agents has been scheduled in South Dakota during February. According to E. J. Williamson and Lloyd Davis, soil specialists with the Agricultural Extension Service at South Dakota State College, area meetings will be held in the Court House conference room at Rapid City, Feb. 24; at the 4-H Fairgrounds, west of Mitchell on Feb. 25; High School auditorium at Beresford Feb. 26; Court House community room, Redfield, Feb. 27; and in the Court House community room at Watertown, Feb. 28. All meetings begin at 1:30 p.m. except the Beresford meeting which will start at 2 p.m.

MOSQUITO GROUP ELECTS

AMHERST, MASS. — Lewis F. Wells, Jr., Quincy, Mass., superintendent of the South Shore Mosquito Control Project, was reelected president of the Northeastern Mosquito Control Assn. at its fourth annual meeting held recently at the University of Massachusetts' Waltham Field Station. Other officers are: vice president, Dr. Hugo Jamnbach, New York State Science Service, Albany; and secretary-treasurer, John Kuschke, Norwood, Mass., superintendent of the Norfolk County Mosquito Control Project.

Pacific Northwest Scores Gain in Wheat-Smut Fight

PORTLAND, ORE. — A whopping $2-million was lopped off smut losses in the Pacific Northwest in 1957, according to U.S. Department of Agriculture reports.

Smut losses which had topped $5 million in 1955 and 1956 were scaled down to $3 million in 1957 through use of resistant varieties and more effective seed treatment.

This progress report on the uphill fight against the costly wheat disease was reported here by Dr. C. S. Holton, Pullman, USDA plant pathologist stationed at Washington State College. Dr. Holton presented the report to a regional extension smut-control committee composed of USDA and land-grant college plant pathologists and representatives of the trade.

Dr. Holton based his calculations on a survey conducted through the Pacific Northwest Grain Dealers' Assn. Over 55 million bushels of wheat representing 41 varieties were sampled for smut in the survey. The sample represents a little more than half of the estimated production in the area covered and somewhat more than one-third of the total wheat production in Washington, Idaho, and Oregon.

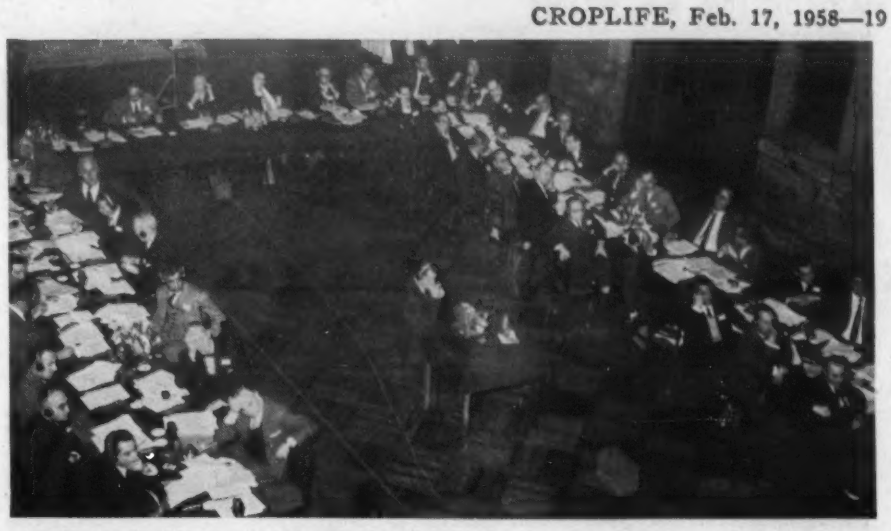
Percentage of wheat grading smutty in the tri-state area of Washington, Oregon and Northern Idaho dropped to 16% in the 1957 sample from 26.7% in 1956.

The sample percentage of smutty wheat, extended to the total 1957 crop, would mean about 17 million bushels of smutty wheat. This compares with 25½ million bushels in 1956 or a decrease in smutty wheat in 1957 of about 8½ million bushels.

Dr. Holton, plant pathologist in charge of the USDA's regional smut-research laboratory, said the drop in smut incidence is not a gratuitous gift from Dame Nature. Weather conditions were as favorable to smut development in 1957 as in the two previous years, he said.

ATLAS APPOINTMENT

WILMINGTON—Dr. Sydney Steele has been named director of public relations for Atlas Powder Co., it was recently announced by Ralph K. Gottshall, president. Dr. Steele has been acting director of the department since last September.



INTERNATIONAL CONFERENCE—California Spray-Chemical Corp.'s French subsidiary, "Cal-France," was sponsor of an international Orthocide conference at the Salon de Actos del Circulo de la Union Mercantil, Madrid, Spain in January. The general scene, pictured above, shows the United Nations-like arrangement wherein the 68 delegates from agricultural chemical companies in 22 nations were able to exchange information on research in crop disease control. Headphones allowed each delegate to hear discussions in his own language. The meeting has become an annual event since 1954.

Cal-Spray International Conference in Spain Attracts Delegates from 22 Nations

RICHMOND, CAL. — Agricultural scientists from twenty-two nations conferred in Madrid, Spain, in late January, on the subject of crop disease control, at a week-long meeting arranged under the auspices of California Spray-Chemical Cie. Francaise, a subsidiary of California Spray-Chemical Corporation.

Following in the pattern of the United Nations organization, this fifth international Orthocide conference brought together 68 representatives of a number of agricultural chemical companies to pool agricultural research data for the benefit of growers in all countries. Conference rooms, in the manner of U.N. meetings, were equipped for simultaneous translation of speeches in French, English, Spanish and German.

According to Norbert B. Van Buren, Calspray's Eastern hemisphere manager and president of Cal-France, the conferences were originated to exchange and discuss research and practical field information on improved methods and new uses for metal-free organic fungicides to improve yield and quality of a variety of crops.

"The first conference, held in 1954 in Germany and attended by representatives from neighboring countries, proved to us that many companies welcomed this opportunity for closer collaboration in research," Mr. Van Buren said.

Attendance has grown each year to include countries as far apart as Finland and South Africa. This year the Western Hemisphere was represented by both Central and South America as well as the United States. It was pointed out that delegates gained in a week's time, through personal meeting, information that literally would take months or years to assemble through the usual channels.

Subjects of reports and discussions were grouped under arboriculture; viticulture; vegetables and ornamentals; seed and soil treatments; and physiological effects of Orthocide (captan).

Speakers on the program were from England, France, U.S.A., Morocco, Holland, Switzerland, Italy, Spain, Germany, Denmark, South Africa, and Central America. Calspray personnel from the U.S. included Dr. T. W. Reed and M. E. Weirenga.

BATTELLE NAMES PRESIDENT

COLUMBUS, OHIO — Dr. B. D. Thomas has been named president of the Battelle Memorial Institute here.

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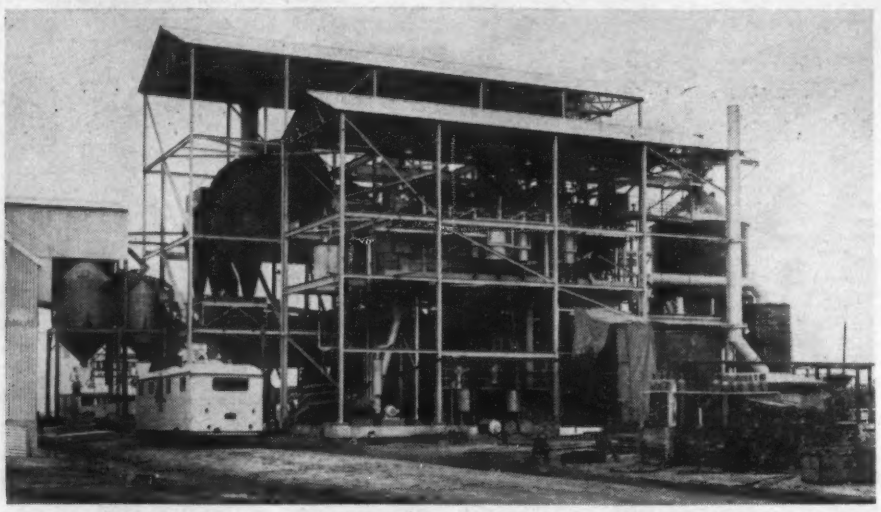


NEW FERTILIZER PLANT—Phosphoric acid and ammonium phosphate fertilizer plant of Coastal Chemical Corp., Pascagoula, Miss., is part of its new $6.5 million plant. The facilities are on the Bayou Casotte Harbor to make water shipment of both raw materials and finished goods possible. The building shown above will have no siding. All equipment inside has been designed to resist weather conditions.

Facilities for Water Shipment Feature of New $6.5 Million Coastal Chemical Plant

PASCAGOULA, MISS.—Coastal Chemical Corp. has announced the recent opening of its new $6.5 million plant for the production of sulfuric acid, superphosphate and ammonium phosphate. The new plant is on the Bayou Casotte Harbor at Pascagoula, and the first product to be shipped from it was sulfuric acid made from the company's large single sulphur-burning unit with a capacity of 600 T/D H_2SO_4.

Only ten months of construction time were required to complete the plant after work got under way, the firm reports.

The Bayou Casotte Harbor has a recently-completed channel cut by the Pascagoula Port Authority, which permits the plant to receive shipments of phosphate rock from Florida and molten sulphur from the Louisiana-Texas area. Studies are also under way for receiving and handling water-transported shipments of potash. The channel is 1,000 feet wide and 32 feet deep, allowing large vessels to enter.

The sulfuric acid plant was designed by the Titlestad Corp., New York. It will produce 60° and 66° Be acid for the market as well as 98% sulfuric acid to be used in the company's high analysis ammonium phosphate plant. Also under construction is a plant which will produce 80,000 tons per year of oleum. The sulphuric acid plant will receive all of its sulphur in the molten state and has storage capacity for over 4,000 tons of molten sulphur. The sulphuric acid plant was constructed by the Reed Construction Co., Jackson, Miss.

The ammonium phosphate plant is said to be the first of its kind in the United States. The design for these facilities was furnished by the Saint Gobain Co. of Paris, France, and constructed by The Fluor Corp. of Los Angeles, Cal. The plant will produce wet process phosphoric acid in a Saint Gobain reactor system. The ammonium phosphate facilities are designed for 350 tons a day of high analysis granular fertilizer.

The off-site facilities designed by Coastal Chemical Corp. consist of dock facilities for receiving raw materials and shipping some finished products by water, an "A" frame type storage building for receiving and storing 10,000 tons Florida phosphate rock, a rock grinding plant, approximately 15,000 tons of bulk and bagged fertilizer storage plus bulk and bagged material handling facilities.

Coastal expects to have one of the most modern fertilizer plants in the United States and as completely integrated as possible. A contract was recently let to the Chemical Construction Corp. for an anhydrous ammonia plant and construction is expected to get started on these facilities in February. Until the ammonia plant is completed, Coastal's ammonia will be furnished by its parent company, Mississippi Chemical Corp., at Yazoo City, Miss. The Coastal Chemical's main offices are also located at Yazoo City.

Emulsol Develops Two New Emulsifiers

CHICAGO — Emulsol Chemical Corp., division of Witco Chemical Co., manufacturer of surface-active agents, has announced the development of two new emulsifiers for Pentachlorophenol.

Emcol C62-06D is especially effective for a 40% Pentachlorophenol concentrate in pine oil, and Emcol C62-06C was developed for a 15% PCP concentrate in aromatic solvents. Both formulations have good low temperature stability of 0° F., according to the company.

Arkansas Fertilizer Sales Exceed 1956 Tonnages

LITTLE ROCK, ARK.—Fertilizer sales in Arkansas for the last half of 1957 exceeded those of the same period of 1956, according to a report by the Arkansas State Plant Board. Separate materials totaled 41,045 tons for the period July 1-Dec. 31, 1957, as compared to 36,241 tons the same months of the previous year.

Mixed goods also registered better sales than the previous record. A total of 62,752 tons, of which 10-20-20 accounted for 8,115 tons, was sold in the last six months of 1957. The same period of 1956 saw sales of 59,915 tons.

Entomology Chairman Appointed at NDAC

FARGO, N.D.—Dr. James R. Dogger has been named chairman of the department of entomology at North Dakota Agricultural College, according to Arlon G. Hazen, director of the experiment station and dean of the school of agriculture at NDAC. Born and educated in Wisconsin, Dr. Dogger comes to North Dakota from the North Carolina State College at Raleigh.

His main fields of interest and research have been the biology and control of soil insects, including wireworms, root maggots, rootworms and grubs, and the study of the nature, importance and control of forage pests.

The NDAC entomology staff has done and is now doing important work in study and control of insects affecting grain crops, such as grasshoppers, thrips and aphids, of livestock pests, potato and sugar beet damaging insects and, in the public health field, with mosquitoes.

PASTURE SCHOOLS

BLACKSBURG, W.VA.—Feb. 19-20 are the dates of the annual Virginia pasture schools to be held at Middleburg.

H. C. Doellinger

PROMOTED BY SCOTT — Appointment of Harold C. Doellinger as assistant to the chairman of O. M. Scott & Sons has been announced by Charles B. Mills, chairman. Mr. Doellinger joined Scott's in 1939. In his new assignment he will be director of statutory labeling, working with state and federal control and administrative officials for adequate labeling of grass seed, fertilizers and pesticides.

Irrigation Water Worth $20 an Acre Foot

McALLEN, TEXAS — Irrigation water in the arid Southwest has a value of $20 an acre foot, according to K. M. Smith, special water master of the Lower Rio Grande water districts.

At this rate the average farmer in South Texas will be using $40 worth of water yearly, because the long range outlook indicates two acre feet of irrigation water for each acre.

This figure has not been reached within the last few years, because of a severe drouth. The outlook is very bright, however, says Mr. Smith. Falcon Dam has over one million acre feet in storage, and all the smaller reservoirs and lakes are full. There is enough water on hand to make a good crop in 1958.

Fertilizer Tonnage Down, Virginia Report Indicates

RICHMOND, VA. — A decline in fertilizer tonnage for 1957 was recorded by the state department of agriculture in its annual report. Mixed fertilizer sold in the state during the year totaled 740,942 tons, as compared to 753,181 tons in 1956. The 1955 figure was even larger, 799,294 tons.

During the first three quarters of 1957, some 674,537 tons were sold, and in the final quarter, 66,405 tons.

2,601 Willamette Valley Soil Samples Tested

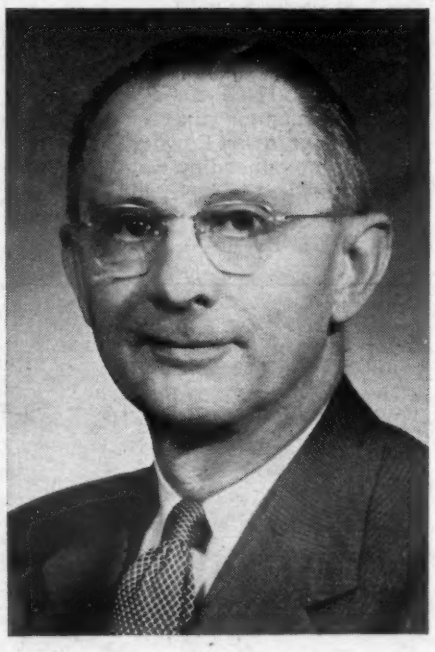
PORTLAND, ORE.—Oregon State College soil testing laboratory conducted 2,601 tests in the Willamette Valley in 1957. Dr. L. A. Alban, in charge of soil testing, said the majority of the tests revealed soils were moderately acid.

The tests showed 40% of the soils were medium and low in phosphorus. Dr. Alban said of 530 soils tested for boron, approximately 55% were in the danger zone. A single soil test costs the farmer $2.50 and can apply to fields up to 20 acres, according to Dr. Alban.

FACILITIES EXPANDED

WATERTOWN, MASS.—Over 75,000 square feet of floor space has been added to its Watertown production facilities by Lewis-Shepard Products, Inc., manufacturer of electric fork lift trucks and related materials handling equipment.

George B. Meredith



Frank O. Agel

Nitrogen Division Promotes Two

NEW YORK — Nitrogen Division, Allied Chemical & Dye Corp., has announced the appointment of George B. Meredith as vice president in charge of production, and Frank O. Agel as vice president in charge of development.

Mr. Meredith has been director of production, supervising operation of Nitrogen Division's four plants. Joining Allied in 1927, he advanced through the positions of assistant control chemist, assistant plant chemist and plant chemist.

In 1949, he was made chief chemist at Nitrogen Division's plant in South Point, Ohio. In the summer of 1952 he was transferred to the New York office and made assistant to the executive vice president, advancing to director of production later that year.

A native of Hanover County, Virginia, Mr. Meredith is a graduate of Virginia Polytechnic Institute.

Mr. Agel has been director of development, supervising the Division's research and engineering program. He has been located at Nitrogen Division's development center in Hopewell, Va., and will continue in that location.

With Allied since 1927, Mr. Agel has been principal chemical engineer, assistant to the director of development, and director of organic development. He was appointed director of development in 1954. Mr. Agel is a native of Paterson, N.J., and a graduate of Cornell University.

MIDWEST MEETING

(Continued from page 1)

regional director, Chicago, said that farmers listed among the advantages of commercial fertilizer that they are "easier and quicker to apply" and that soil needs can be supplied more accurately.

The average farmer's knowledge about fertilizer is limited, according to the survey. Nearly 50% gave wrong or partially wrong answers when asked to choose grades which would correct specified plant food deficiencies, and the average farmer seems not to understand clearly the meaning of analysis, grade or ratio.

Because of this lack of understanding about fertilizer, much information about analysis and amounts is incomplete and thus not fully effective in exerting influence on the farmers' thoughts and behaviors. Many messages are sent, but only a few are received, the speakers observed.

To overcome this lack of knowledge and uncertainty, the farmer seeks information and advice from others. Although county agents and college publications are rated highly as sources of practical fertilizer information, the local dealer loomed as being more important. This was true when the farmer wanted to discuss the amount and analysis to buy.

Family and friends were also mentioned importantly when it came to determining "how much we should use and how much we can afford to use." Neighbors furnished information on whether or not to use fertilizer, but the professional agriculture worker was summoned for advice on what analysis and what amount should be applied.

In other words, the survey said, technical matters were referred to the agricultural expert, but these matters, as well as price, were also discussed with the dealer.

Soil tests are popular with users of fertilizer. 64% reported they had had their soil tested. Only 32% of non-users had done this. Nearly half of those who had not had their soil tested blamed their own negligence for the situation.

Of the users who had their soil tested, only about 12% failed to follow, at least partially, the test recommendations.

Why some farmers do not use fertilizer was suggested in the survey results. Non-users most often said they lacked money for fertilizer, but an almost equal number indicated they regarded the application of fertilizer "not necessary." Some 25% of the non-users blamed the weather for their failure to apply commercial plant food, while still others indicated a personal bias against commercial fertilizers. Most of the latter either thought commercial fertilizer was not necessary or preferred organic material.

Subjects of other papers presented at the two day conference included fertility studies in corn belt states, application techniques, results of agronomic studies and a study of dealers' attitudes toward fertilizers. A complete report of the meeting is scheduled for the Feb. 24 issue of Croplife.

Alabama Fertilizer Sales Up

MONTGOMERY, ALA.—December sales of fertilizers in Alabama increased slightly over the November total, according to a report just issued by A. W. Todd, Alabama agricultural commissioner.

December's tonnage was 14,801.88 as compared to 14,371.28 tons during the previous month. Among the mixtures, 0-14-14 was most popular, with 5,766.33 tons being sold. Ammonium nitrate was sold in the amount of 2,524.70 tons in December.

Worst Insect Pests Listed for Virginia

BLACKSBURG, VA.—Arthur P. Morris, asociate entomologist at Virginia Polytechnic Institute, has reported that the ten most important crop and forest insects last year in Virginia were the corn earworm, alfalfa weevil, fall armyworm, spider mite, scale insects, plum curculio, velvetbean caterpillar, red-banded leaf roller, grain weevil and European corn borer.

Pests of man, animal and household which caused the most trouble were the housefly, hornfly, cockroach, cattle louse, cattle grub, subterranean termite, mosquito, mites and ticks, clothes moth and powder-post beetle.

Corn earworms were responsible for heavy damage to Virginia crops or large expenditures to prevent damage. They were especially expensive to soybean growers in the southeastern and eastern parts of the state. Other crops damaged were peanuts, milo, sorghum, field and sweet corn, tomatoes, snap and lima beans, kale, collards and other cruciferous crops.

Alfalfa weevils were heavy and destructive, when not controlled, in most of the state. Activity was greatest during April and May but began as early as the first of March and continued through June.

Fall armyworms damaged pastures, peanuts, small grains for cover crops and other crops in scattered localities from early August until early November.

Velvetbean caterpillars were serious on soybeans in southeastern and eastern Virginia for the first time and insecticidal applications were widely used. The caterpillars caused some damage to peanuts and snap beans.

Only a few widely scattered fields of alfalfa had heavy populations of pea aphids or spotted alfalfa aphids.

Ips beetles, southern pine beetles and black turpentine beetles killed many pine trees last season.

Nantucket pine-tip moth larvae did considerable damage to loblolly and Virginia pines in parts of the state where these species are prevalent. White pine weevils damaged the terminals of pine seedlings, young pines and plantations in scattered areas.

Pine sawfly larvae defoliated pine trees from April through October. Damage was heaviest in central, eastern, southeastern and south-central areas.

Colorado potato beetles were heavier than during 1956, and quite a problem on Irish potatoes in southeastern Virginia and on the Eastern Shore.

Spider mites were severe on vegetable crops during late June and July, on soybeans on the Eastern Shore in August, on strawberries in the spring and in some apple and peach orchards in the summer.

Cabbage loopers, imported cabbageworms, and larvae of the diamondback moth heavily damaged cabbage broccoli and cauliflower from early July through October.

Potato leafhopper infestations on Irish potatoes were the worst in several years. Termite and powder-post beetle infestations continued to increase. Red-banded leaf-rollers were more of a problem in apple orchards than usual, partly because of resistance to the insecticide generally used to control them. Oriental fruit moths and lesser peach-tree-borers caused heavier than usual damage in peach orchards. Apple aphids were somewhat more troublesome in northern Virginia apple orchards but were not a problem in Piedmont.

Apple flea weevils were a problem in one southwestern orchard, and infestations are slowly spreading and increasing each year. Periodical cicadas heavily damaged apple trees in some orchards in Wise County but were not a problem elsewhere. Tobacco hornworms were the most troublesome insects on tobacco during the year, but even so, were less of a problem than usual.

Books on Pesticides

WEEDS—Second Edition (1955)
W. C. Muenscher

Entire book has been revised and reset, with descriptions of seventy weeds added to the original list of five hundred, plus twelve new full-page plates depicting nineteen kinds. Keys and full descriptions provided for identification with detailed illustrations of 331. Types and sources of weeds, their means of reproduction and dissemination, and the amount of damage they inflict on crops. Specific directions for control, with reference to chemical methods of recent discovery $10.00

CHEMICAL BUSINESS HANDBOOK
Dr. John H. Perry

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Dr. E. R. de Ong

The information is grouped according to field of application rather than to chemical composition or nomenclature. Chapters on insecticide label, seed disinfectants, herbicides, forest insects and diseases, livestock insects, and the pests found in household and industry. Fumigation of warehouses, residual sprays and preservatives for fruits, vegetables and wood products are covered. An up-to-date guide on pest control with the needs of operators, agricultural and structural specialists carefully considered. Shippers and warehouse personnel will find the book useful..... $10.00

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A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Northeastern states.

HOUSE COMMITTEE HEARS TESTIMONY . . .

Industry Group Asks for New Co-op Tax Law

The Ways and Means Committee of the House of Representatives was given some straight-from-the-shoulder suggestions the other day of a way to increase government income without digging deeper into the pockets of private fertilizer manufacturers for revenue. The suggestion was that legal loopholes be plugged so that cooperatives would be obliged to pay the same taxes that their private industry competitors are forced to pay.

The Fertilizer Committee for Tax Equality, a group headed by Howard A. Parker, president of the Sylacauga Fertilizer Co., Sylacauga, Ala., and ably supported by executives of fertilizer firms located in all parts of the country, brought up some very potent points in its statement to the Ways and Means Committee. Many of these items should be brought to the attention of the trade in order to bring the co-op situation into perspective. While there is naturally a broad area here for conflicting philosophies concerning basic concepts of business operation, the ground on which the fertilizer committee operates is understandable to all.

Some of the facts brought out by the committee's statement are: "Under current laws and treasury regulations, cooperatives are able to carry on business with the payment of little or no federal income tax. Our proprietary companies, directing attention and efforts to the same markets, must pay up to 52% of our earnings in tax for the affairs of government, including the national defense. We believe that this discrimination is wholly improper and we ask you to remedy the present situation by imposing upon the cooperative corporations the same tax that we are now required to pay.

"Let me make it clear to you that our complaint has nothing whatsoever to do with the cooperatives being in business. We are well used to competition, for there are over 850 fertilizer operators other than cooperatives, with a total of more than 1,200 plants. But these companies are competitors on a basis of equality, one with another. We are competitors within the framework of the American free-enterprise system. All of us pay federal income tax on total earnings, without legal preference or advantage.

"Cooperatives in the fertilizer business operate in generally the same way as our proprietary companies, and they make profits in the same way that our companies do. But at the end of the year, when most of us pay 52% of our earnings to the treasury in corporate income tax, the cooperatives pay little or nothing.

"We believe—and we state to your committee—that a tax law that was passed in 1916—nearly forty-two years ago—when the corporate income tax was only 2%, should most certainly be reexamined today, when that same tax ranges up to 52%.

"We believe too that the tax advantage which was given to cooperatives in 1916, when they were new and little and struggling, should be adjusted to the vastly different economic conditions that exist in 1958, when many cooperatives are truly big business, conducting enormous operations, and when the national budget is almost exactly 100 times greater than it was when the 64th Congress gave co-ops their tax advantage. (From $736 million in 1916 to $72 billion in 1957.)

"We submit that the tax favoritism of 1916 has no place in 1958. It is a gross inequity as well as an inequality that those who were permitted to escape 2% of income tax in 1916 should be permitted to escape payment of the 1958 tax which reaches up to 52% and has little prospect of being lower.

"The situation prevails among hundreds of cooperative competitors who are able, under present laws and regulations, to plow all of their earnings tax-free back into capital for expansion and working capital without the payment of the federal income tax that the rest of us must pay."

The statement reviewed the co-op movement, pointing out that some 40 years ago, co-ops were neighborhood groups formed to market produce together and to grade their produce to a common standard of excellence and to offer it to a buyer at one place to save the buyer from having to journey relatively great distances with his horse and wagon.

This concept expanded, the statement said, working into distribution channels, and then to manufacturing and later to producing basic goods. All this time, the Ways and Means Committee was told, the federal income tax was increasing, and the co-ops were escaping this increasing burden. Their plants increased in number, totaling some 111 by 1953, representing a capacity amounting to about 12% of the total fertilizer industry.

"And all the time," the statement continued, "little or no federal income tax was being paid . . . it was this freedom enjoyed by cooperatives from the high war taxes that proprietary companies were paying, which provided the profit windfall that the co-ops used to move further back to the source of supply: Namely, the production of basic ingredients.

"This integration of sources of supply of basic fertilizer ingredients by the tax-exempt cooperatives has been, from the standpoint of tax-paying fertilizer companies, the hardest and most damaging feature of the whole competitive operation."

Specific instances were pointed out to the committee indicating that such operations are "big business—very big business," amounting to some $400 million during the 1954-55 fiscal year, in fertilizer alone. This represented a gain of $25 million over the previous year.

"This enormous growth has been accomplished out of tax-free earnings, at the expense of the treasury and every taxpayer," the fertilizer industry representatives pointed out. They added that co-op factories are "free", inasmuch as their expansion can be paid for out of funds that would normally go into the U.S. treasury in income taxes.

A final clincher was made in the testimony: "In our economy, if one group is to go untaxed and another group is taxed, the former group will take over the latter group—it is just a question of time. In any event, it is the end of any semblance of our present economic system.

"The taxpaying, proprietary fertilizer companies join with other industries in asking the committee and the Congress to require cooperatives in all fields of business to operate under the same tax rules as are imposed upon us by law."

Quote

"We all have a stake in progress and in developing knowledge about insects and how best to control them. Our knowledge must be improved year after year. Man desires greater freedom from insect pests; from mosquitoes, flies, and household pests as well as from pests which destroy food and fiber crops. More than that, man must have greater freedom from insects in order to maintain an adequate supply of food and fiber for our growing population. As population grows, pest control becomes increasingly important."—Lea S. Hitchner, Executive Secretary, National Agricultural Chemicals Assn.

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CROPLIFE is a controlled circulation journal published weekly. Weekly distribution of each issue is made to the fertilizer manufacturers, pesticide formulators and basic chemical manufacturers. In addition, the dealer-distributor-farm adviser segment of the agricultural chemical industry is covered on a regional (crop-area) basis with a mailing schedule which covers consecutively, one each week, four geographic regions (Northeast, South, Midwest and West) of the U.S. with one of four regional dealer issues. To those not eligible for this controlled distribution Croplife subscription rate is $5 for one year ($8 a year outside the U.S.). Single copy price, 25¢.

LAWRENCE A. LONG
Editor

DONALD NETH
Managing Editor

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MEETING MEMOS

Feb. 28—Conference on Proposed Forest Soils Fertilization Research, Sonora Inn, Sonora, Cal.

March 10-11—Central Midwest District Pest Control Meeting, Town House Hotel, Kansas City, Kansas, Robert R. Schendel, Schendel Pest Control, 1018 E. 6th St., Topeka, Kansas, General Chairman.

March 26-28—North Central Branch Entomological Society of America, Annual Conference, Sheraton-Jefferson Hotel, St. Louis.

Dec. 3-5—Agricultural Ammonia Institute, Annual Meeting, Morrison Hotel, Chicago, Jack F. Criswell, Claridge Hotel, Memphis, Executive Vice President.

EDITOR'S NOTE: The listings above are appearing in the Meeting Memos for the first time this week.

Feb. 19-20—Midwestern Chapter, National Shade Tree Conference, 13th Annual Meeting, LaSalle Hotel, Chicago, Noel B. Wysong, 536 N. Harlem Ave., River Forest, Ill., Secretary.

Feb. 20-21—Shell Chemical Corp. Nematology Workshop, Holiday Inn Motel, Toledo, Ohio.

Feb. 20-22—Nitrogen Conference, Lowry Hotel, St. Paul. M. W. Mawhinny, Smith-Douglass Co., Albert Lea, Minn., Chairman.

Feb. 25-26—Seventh Annual South Carolina Pesticide Chemicals School, Clemson House, Clemson College.

Feb. 25-27 — Agricultural Chemicals Conference, Texas Technological College, Lubbock, Texas.

Feb. 26-27—Seventh Annual Ohio-Indiana Agricultural Aviation Conference, Ohio State University, Columbus, Ohio.

March 4-5—Western Cotton Production Conference, Hotel Cortez, El Paso, Texas, Conference Sponsored by the National Cotton Council and the Five State Cotton Growers Assn.

March 10—Fertilizer Dealers' Day, Chehalis, Wash., sponsored by the Pacific Northwest Plant Food Assn. in cooperation with Washington State College.

March 13-14—Oregon Feed & Seed Dealers Assn., Annual Convention, Multnomah Hotel, Portland, Ore.

March 18-19—South Dakota Weed & Pest Control Conference, City Auditorium, Miller, S.D.

March 18-20—Western Weed Conference, Hotel Davenport, Spokane, Wash.

March 20-21—Pest Control Operators Conference, Michigan State University, East Lansing, Mich.

April 13-15—Sixth Annual California Fertilizer Conference, California State Polytechnic College, San Luis Obispo, Sidney H. Bierly, 475 Huntington Drive, San Marino 9, Cal., General Manager.

April 17-19—California Hay, Grain & Feed Dealers Assn. Annual Convention, Ambassador Hotel, Los Angeles.

April 22 — Western Agricultural Chemicals Assn., Spring Meeting, Hotel Biltmore, Los Angeles; C. O. Barnard, 2466 Kenwood Ave., San Jose 28, Cal., executive secretary.

April 30 — Manufacturing Chemists' Assn. Precautionary Labeling Conference, Shamrock Hotel, Houston, Texas.

May 22-23—Soil Science Society of North Carolina, First Annual Meeting, Williams Hall, North Carolina State College, Raleigh, N.C.

June 9-11—Association of Southern Feed & Fertilizer Control Officials, Heart of Atlanta Motel, Atlanta, Ga., Bruce Poundstone, University of Kentucky, Lexington, Ky., Secretary-Treasurer.

June 15-18—National Plant Food Institute, Annual Meeting, Greenbrier Hotel, White Sulphur Springs, W. Va.

June 25-27—Pacific Branch, Entomological Society of America, San Diego, Cal.

July 8-10—Pacific Northwest Plant Food Assn., Ninth Annual Regional Fertilizer Conference, Pocatello, Idaho.

July 18-19—Southwest Fertilizer Conference and Grade Hearing, Buccaneer Hotel, Galveston, Texas.

Oct. 22-24—Pacific Northwest Plant Food Assn., Annual Meeting, Gearhart, Ore., Leon S. Jackson, P.O. Box 4623, Sellwood-Moreland Station, Portland, Ore., secretary.

Oct. 28-29—Northwest Garden Supply Trade Show, Masonic Temple, Portland, Ore.

Oct. 29-31—National Agricultural Chemicals Assn., 25th annual meeting, Bon Air Hotel, Augusta, Ga.

Nov. 9-11—California Fertilizer Assn., 35th Annual Convention, Ambassador Hotel, Los Angeles, Sidney H. Bierly, 475 Huntington Drive, San Marino 9, Cal., General Manager.

Jan. 20-22, 1959—California Weed Conference, Santa Barbara, Cal.

Spruce Budworm on Increase in Minnesota

DULUTH, MINN. — The spruce budworm infested 600,000 acres in northern Minnesota last year, an increase of 36% over 1956, James Bean, Lake States Experimental Station, Madison, Wis., told an area forestry conference here recently. He said that infestation of additional acres could be expected this year.

CALENDAR FOR 1958-59

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Henry E. Wessel

TO NEW V-C POST—Henry E. Wessel has been named assistant to the general manager of the fertilizer division of Virginia-Carolina Chemical Corp., Richmond, Va. A native of Chicago and a graduate in chemical engineering from the Illinois Institute of Technology, Mr. Wessel has had nine years of experience in the fields of production, engineering, process and product development and marketing research. He was formerly with Monsanto Chemical Co. and later became manager of engineering economics for the Midwest Research Institute in Kansas City. In 1955 he joined International Minerals and Chemical Corp., Chicago, later rejoining Monsanto as manager of marketing research for its engineering division, which position he resigned to take up his new duties with V-C. Here he will direct staff services of marketing research, sales planning, budgets, cost and production control and product development of V-C's fertilizer operations.

IRRIGATION CLINIC

BROOKINGS, S.D.—The fifth annual irrigation clinic has been scheduled for March 28 at South Dakota State College, according to John L. Wiersma, associate professor of agricultural engineering at the college.

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Stepan Chemical Moves General Offices

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In the near future the research and development laboratories of both Stepan and Ninol will be consolidated and located at the new Randolph Street address.

MAN OF THE YEAR

BLACKSBURG, VA.—Dr. Roy A. Blaser, agronomist at Virginia Polytechnic Institute Agricultural Experiment Station, has been named "man-of-the-year" for 1957 by the Southern Seedsmen's Assn. In the citation to Dr. Blaser, the association recognized particularly his "outstanding contributions to pasture development in the South."

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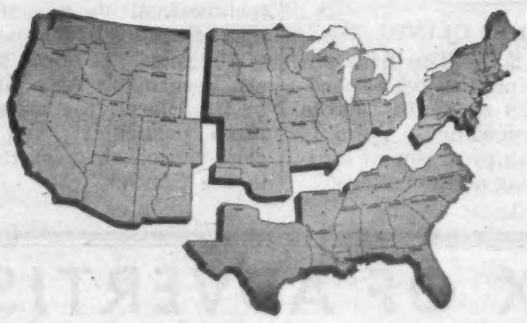

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